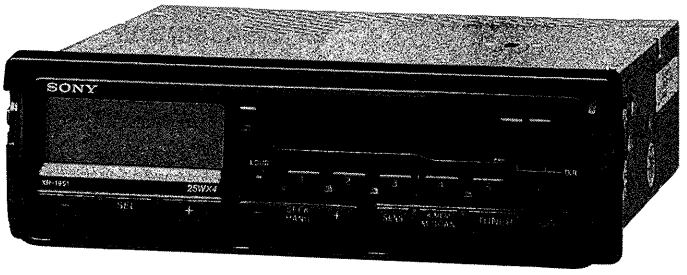
XR-1951

SERVICE MANUAL

AEP Model
UK Model



Model Name Using Similar Mechanism	XR-1953
Tape Transport Mechanism Type	MG-36SHJ-32

SPECIFICATIONS

Cassette player section

Tape track	4-track 2-channel stereo
Wow and flutter	0.13 % (WRMS)
Frequency response	50 – 15,000 Hz
Signal-to-noise ratio	52 dB

Tuner section

FM

Tuning range	87.5 – 108 MHz
Antenna terminal	External antenna connector
Intermediate frequency	10.7 MHz
Usable sensitivity	12 dBf
Selectivity	75 dB at 400 kHz
Signal-to-noise ratio	60 dB (stereo), 65 dB (mono)
Harmonic distortion at 1 kHz	0.5 % (stereo), 0.3 % (mono)
Separation	28 dB at 1 kHz
Frequency response	30 – 15,000 Hz
Capture ratio	2 dB

MW/LW

Tuning range	MW : 531 – 1,602 kHz LW : 153 – 281 kHz
Antenna terminal	External antenna connector
Intermediate frequency	450kHz
Sensitivity	MW : 30 µV LW : 35 µV

Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	4 – 8 ohms
Maximum power output	25 W × 4 (at 4 ohms)

General

Outputs	Power antenna relay control lead
Tone controls	Bass ±8 dB at 100 Hz Treble ±8 dB at 10 kHz
Power requirements	12 V DC car battery (negative ground)
Dimensions	Approx. 188 × 58 × 173 mm (w/h/d)(with the bracket) not incl. projecting parts and controls
Mounting dimension	Approx. 182 × 53 × 161 mm (w/h/d) not incl. projecting parts and controls
Mass	Approx. 1.3 kg
Supplied accessories	Parts for installation and connections (1 set)

Design and specifications are subject to change without notice.

FM/MW/LW CASSETTE CAR STEREO

SONY®

CAUTION

Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type recommended by the equipment manufacturer.
Discard used batteries according to manufacture's instructions.

ADVARSEL!

Lithiumbatteri-Eksplosionsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri af samme fabrikat og type.
Levér det brugte batteri tilbage til leverandøren.

ADVARSEL

Eksplosjonsfare ved feilaktig skifte av batteri.
Benytt samme batteritype eller en tilsvarende type anbefalt av apparatfabrikanten.
Brukte batterier kasseres i henhold til fabrikantens instruksjoner.

VARNING

Explosionsfara vid felaktigt batteribyte.
Använd samma batterityp eller en likvärdig typ som rekommenderas av apparattillverkaren.
Kassera använt batteri enligt gällande föreskrifter.

VAROITUS

Paristo voi räjähtää, jos se on virheellisesti asennettu.
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin.
Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

Notes on Chip Component Replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

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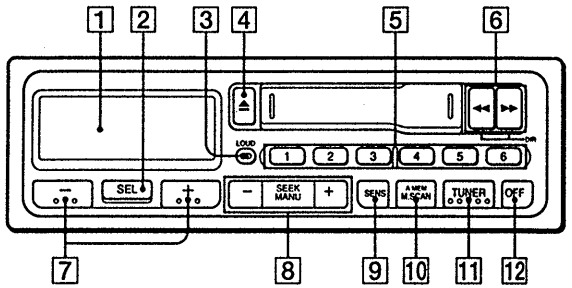
Location of controls



EN

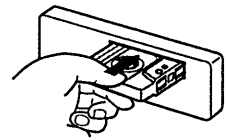
Refer to the pages for further details.

1 Display window
2 SEL (control mode select) button 6
3 LOUD (loudness) button 6
4 ⏏ (eject) button 4
5 During radio reception:
Preset number buttons 5
6 ◄◄/►► (fast winding)/DIR (tape transport direction change) buttons 4
7 ⊕⊖ (volume/bass/treble/balance/fader control) button 6
8 SEEK/MANU button 5
9 SENS (sensitivity adjust) button 5
10 A.MEM (automatic memory)/M.SCAN (Memory scan) 4, 5
11 TUNER (radio on/band select) button 4, 5
12 OFF button

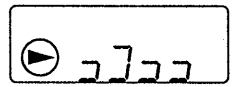
Cassette Player

Listening to the tape

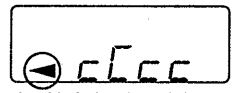
Insert the cassette.



Playback will start automatically.



The side facing up is being played.



The side facing down is being played.

Tip

To change the tape transport direction, press both ◄◄ and ►► at the same time.

To eject the cassette, press ⏏.

Fast-winding the tape

Direction indicator	Fast-forward	Rewind
►	►►	◄◄
◄	◄◄	►►

To resume playback, press the other fast-winding button partially until the locked button is released.

Tip

◄ and ► flashs while fast-winding the tape.

Radio

Memorizing stations automatically

— Automatic Memory

The unit selects the stations with clearst reception and memorises them. You can store up to 6 stations on each band (FM1, FM2, FM3, MW and LW).

Caution

When tuning in the station while driving, use Automatic Memory to prevent accidents.

1 Press (TUNER) repeatedly to select the desired band (FM1, FM2, FM3, MW and LW).

2 Press (A.MEM/M.SCAN) for two seconds.
The unit stores stations on the number buttons.

Notes

- *The unit will not store stations with weak signals. If there are only a few stations that you can receive, the stations stored before will remain on the other number buttons.*
- *When a preset number is indicated in the display , the unit starts storing stations from the one currently displayed.*

This section is extracted from instruction manual.

Memorizing only the desired stations

You can store up to 6 stations on each band (18 for FM1, FM2 and FM3, 12 for MW and LW) in order of your choice.

1 **Press (TUNER) repeatedly to select the desired band.**

2 **Press either side of (SEEK/MANU) to tune in the station that you want to store on the number button.**

3 **Keep the desired number button (① to ⑥) pressed for two seconds until you hear a beep tones.**

The number button indication appears in the display.

Note

If you try to store another station on the same number button, the previously stored station will be erased.

Receiving the memorized stations

1 **Press (TUNER) repeatedly to select the desired band.**

2 **Press the number button (① to ⑥) momentarily where the desired station is stored.**

Tip

Press (A.MEM/M.SCAN) momentarily to receive in order the stations stored in the memory (Memory scan Function).

If you cannot tune in a preset station

Press either side of (SEEK/MANU) momentarily to search for the station (automatic tuning).
Scanning stops when the unit receives a station. Press either side of (SEEK/MANU) repeatedly until the desired station is received.

Note

If the automatic tuning stops too frequently, press (SENS) momentarily until "LCL" (local seek mode) appears in the display. Only the stations with relatively strong signals will be tuned on.

Tip

If you know the frequency of the station you want to listen to, press and hold either side of (SEEK/MANU) until the desired frequency appears (manual tuning).

If FM stereo reception is poor — Monaural mode

Press (SENS) momentarily until "MONO" appears.
The sound improves, but it will becomes monaural ("STEREO" disappears).

Other Functions

Adjusting the sound characteristics

You can adjust the bass, treble, balance and fader.

1 **Select the item you want to adjust by pressing (SEL) repeatedly.**
To adjust bass or treble, press (SEL) repeatedly until "BAS" or "TRE" flashes.

BAS (bass) → TRE (treble)
→ BAL (balance) → FAD (fader)
→ VOL (volume)

2 **Adjust the selected item by pressing ⊕ or ⊖.**

Adjust within three seconds after selecting. (After three seconds the buttons work as volume control buttons.)

Changing the sound and display settings

Enjoying bass and treble even at low volume — Loudness

Bass and treble will be reinforced.

Press (LOUD).
"LOUD" appears.

To cancel, press (LOUD) again.

Turn off the beeps

Press ⑥ while pressing (SEL).
To obtain the beeps again, press these buttons again.

Additional Information

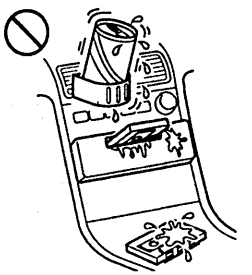
Precautions

- If your car was parked in direct sunlight resulting in a considerable rise in temperature inside the car, allow the unit to cool off before operating it.
- If no power is being supplied to the unit, check the connections first. If everything is in order, check the fuse.
- If no sound comes from the speakers of a 2-speaker system, set the fader control to the center position.
- When the tape is played back for a long period, the cassette shell may become warm because of the built-in power amplifier. However, this is not a sign of a malfunction.

If you have any questions or problems concerning your unit that are not covered in this manual, please consult your nearest Sony dealer.

To maintain high quality sound

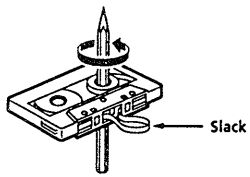
If you have drink holders near your audio equipment, be careful not to splash juice or other soft drinks onto the car audio. Sugary residues on this unit or cassette tapes may contaminate the playback heads, reduce the sound quality, or prevent sound reproduction altogether.
Cassette cleaning kits cannot remove sugar from the tape heads.



Notes on Cassettes

Cassette care

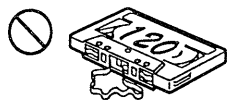
- Do not touch the tape surface of a cassette, as any dirt or dust will contaminate the heads.
- Keep cassettes away from equipment with built-in magnets such as speakers and amplifiers, as erasure or distortion on the recorded tape could occur.
- Do not expose cassettes to direct sunlight, extremely cold temperatures or moisture.
- Slack in the tape may cause the tape to be caught in the machine. Before you insert the tape, use a pencil or similar object to turn the reel and take up any slack.

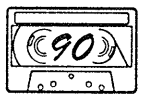


- Distorted cassettes and loose labels can cause problems when inserting or ejecting tapes. Remove or replace loose labels.

Cassettes longer than 90 minutes

The use of cassettes longer than 90 minutes is not recommended except for long continuous play. The tapes used for these cassettes are very thin and tend to be stretched easily. Frequent playing and stopping of these tapes may cause them to be pulled into the cassette deck mechanism.



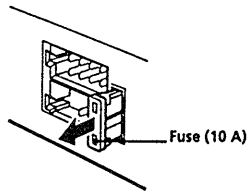


Maintenance

Fuse Replacement

When replacing the fuse, be sure to use one matching the amperage rating stated on the fuse. If the fuse blows, check the power connection and replace the fuse. If the fuse blows again after replacement, there may be an internal malfunction. In such a case, consult your nearest Sony dealer.

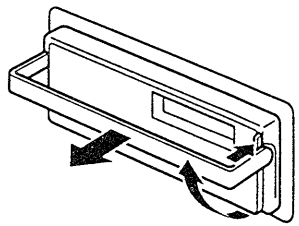
Remove the bracket first, then replace the fuse on the rear of the unit.



Warning

Never use a fuse with an amperage rating exceeding the one supplied with the unit as this could damage the unit.

Removing the unit



To prevent the unit from being stolen

When you leave your car, remove the unit from the bracket and take it away with you. Be sure to turn off the power of the unit before removing the unit, otherwise you may hear a noise.

Caution

Be careful when you remove the unit. The rear of the unit becomes very hot just after operating it because of a built-in power amplifer.

Connections/Connexions/Conexiones/Bağlantılar/التوصيلات

Caution

- This unit is designed for negative ground 12 V DC operation only.
- Before making connections, disconnect the ground terminal of the car battery to avoid short circuits.
- Connect the **yellow** and **red** power input leads only after all other leads have been connected.
- **Run all ground wires to a common ground point.**

Précautions

- Cet appareil est conçu pour fonctionner sur courant continu de 12 V avec masse négative.
- Avant d'effectuer les connexions, débrancher la borne de terre de la batterie du véhicule pour éviter tout court-circuit.
- Brancher les fils d'entrée d'alimentation **jaune** et **rouge** seulement après avoir terminé tous les autres branchements.
- **Rassembler tous les fils de terre en un point de masse commun.**

Precauciones

- Esta unidad ha sido diseñada para alimentarse con 12 V CC, negativo a masa, solamente.
- Antes de realizar las conexiones, desconecte el terminal de puesta a masa de la batería del automóvil a fin de evitar cortocircuitos.
- Conecte los cables conectores de alimentación **amarillo** y **rojo** solamente después de haber conectado los demás.
- **Conecte todos los conductores de puesta a masa a un punto común.**

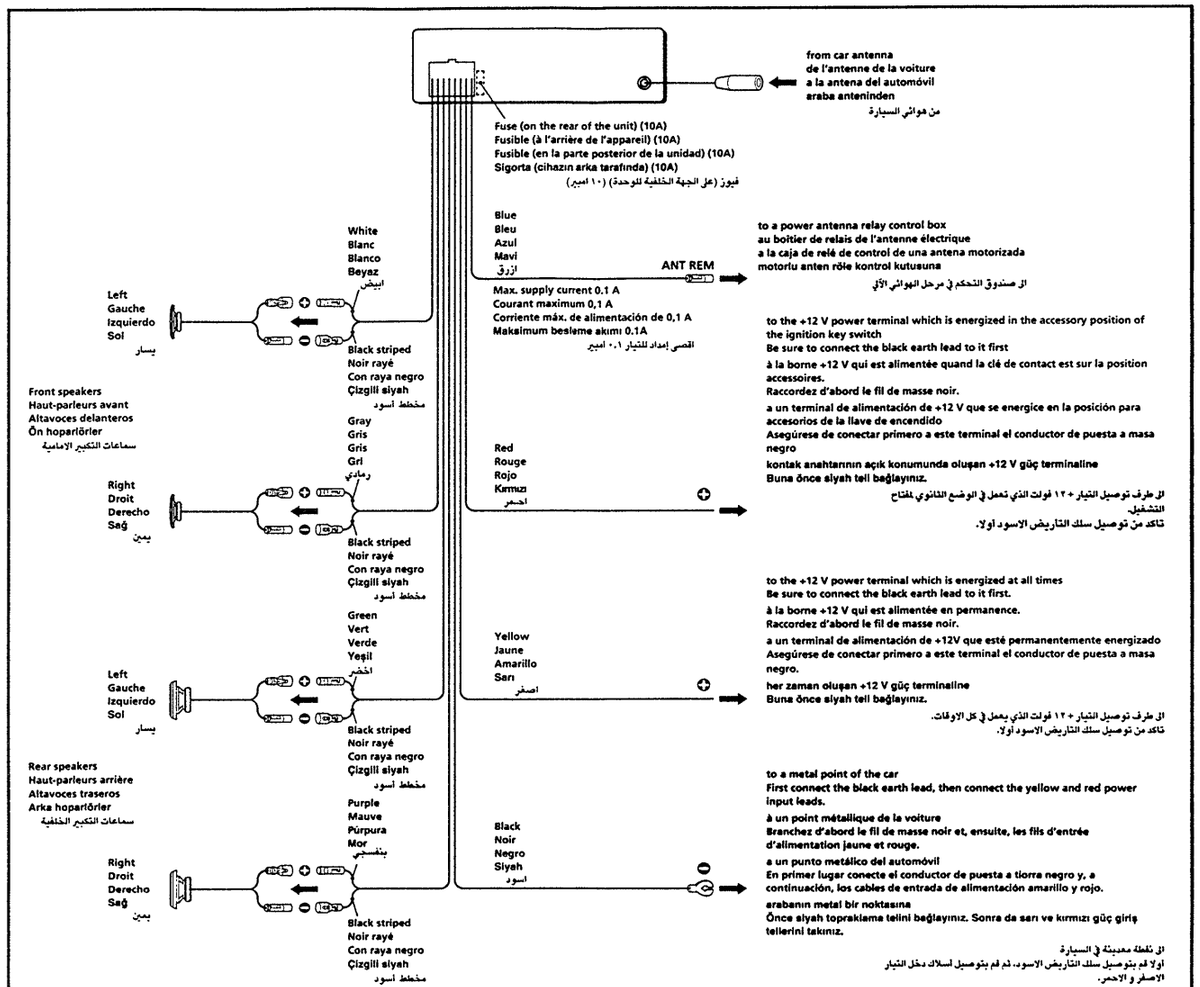
Uyarı

- Bu cihaz sadece eksi topraklamalı 12 V DC ile çalışacak şekilde tasarlanmıştır.
- Kısa devreye sebep olmamak için bağlantıya başlamadan önce akünün toprak ucunu geçici olarak çıkartınız.
- **Sarı** ve **kırmızı** güç tellerinin bağlantısını diğer bütün telleri bağladıktan sonra yapınız.
- **Bütün toprak tellerini ortak bir toprak noktasında toplayınız.**

تنبيه

- هذه الوحدة مصممة للتشغيل على التيار المباشر ١٢ فولت بتاريض سالب فقط
- قبل عمل التوصيلات، إفصل طرف توصيل الارضي لبطارية السيارة لتفادي حدوث تماس كهربي.
- قم بتوصيل اسلاك دخل التيار **الاصفر** و**الاحمر** بعد الانتهاء من توصيل جميع الاسلاك الاخرى
- **قم بتوصيل جميع اسلاك التاريض بنقطة تاريض مشتركة.**

Connection Example / Exemple de montage / Ejemplo de conexiónes / Bağlantı Örneği / مثال على التوصيل


from car antenna
de l'antenne de la voiture
a la antena del automóvil
araba anteninden
من هوائي السيارة
Fuse (on the rear of the unit) (10A)
Fusible (à l'arrière de l'appareil) (10A)
Fusible (en la parte posterior de la unidad) (10A)
Sigorta (cihazın arka tarafında) (10A)
فيوز (على الجهة الخلفية للوحدة) (١٠ امبير)
Blue
Bleu
Azul
Mavi
ازرق
ANT REM
to a power antenna relay control box
au boîtier de relais de l'antenne électrique
a la caja de relé de control de una antena motorizada
motorlu anten röle kontrol kutusuna
الى صندوق التحكم في مرحل الهوائي الآلي
Max. supply current 0.1 A
Courant maximum 0,1 A
Corriente máx. de alimentación de 0,1 A
Maksimum besleme akımı 0.1A
القصى إمداد للتيار ٠.١ امبير
White
Blanc
Blanco
Beyaz
ابيض
Left
Gauche
Izquierdo
Sol
يسار
Black striped
Noir rayé
Con raya negro
Çizgili siyah
مخطط اسود
Front speakers
Haut-parleurs avant
Altavoces delanteros
Ön hoparlörler
سماعات التكبير الامامية
Gray
Gris
Gris
Grİ
رمادي
Red
Rouge
Rojo
Kırmızı
احمر
to the +12 V power terminal which is energized in the accessory position of the ignition key switch
Be sure to connect the black earth lead to it first
à la borne +12 V qui est alimentée quand la clé de contact est sur la position accessoires.
Raccordez d'abord le fil de masse noir.
a un terminal de alimentación de +12 V que se energice en la posición para accesorios de la llave de encendido
Asegúrese de conectar primero a este terminal el conductor de puesta a masa negro
kontak anahtarının açık konumunda oluşan +12 V güç terminaline
Buna önce siyah teli bağlayınız.
الى طرف توصيل التيار + ١٢ فولت الذي تعمل في الوضع الثانوي لمفتاح التشغيل.
تاكد من توصيل سلك التاريض الاسود أولا.
Right
Droit
Derecho
Sağ
يمين
Green
Vert
Verde
Yeşil
اخضر
Yellow
Jaune
Amarillo
Sarı
اصفر
to the +12 V power terminal which is energized at all times
Be sure to connect the black earth lead to it first.
à la borne +12 V qui est alimentée en permanence.
Raccordez d'abord le fil de masse noir.
a un terminal de alimentación de +12V que esté permanentemente energizado
Asegúrese de conectar primero a este terminal el conductor de puesta a masa negro.
her zaman oluşan +12 V güç terminaline
Buna önce siyah teli bağlayınız.
الى طرف توصيل التيار + ١٢ فولت الذي يعمل في كل الاوقات.
تاكد من توصيل سلك التاريض الاسود أولا.
Rear speakers
Haut-parleurs arrière
Altavoces traseros
Arka hoparlörler
سماعات التكبير الخلفية
Purple
Mauve
Púrpura
Mor
بنفسجي
Black
Noir
Negro
Siyah
اسود
to a metal point of the car
First connect the black earth lead, then connect the yellow and red power input leads.
à un point métallique de la voiture
Branchez d'abord le fil de masse noir et, ensuite, les fils d'entrée d'alimentation jaune et rouge.
a un punto metálico del automóvil
En primer lugar conecte el conductor de puesta a tierra negro y, a continuación, los cables de entrada de alimentación amarillo y rojo.
arabanın metal bir noktasına
Önce siyah topraklama telini bağlayınız. Sonra da sarı ve kırmızı güç giriş tellerini takınız.
الى نقطة معدنية في السيارة
اولا قم بتوصيل سلك التاريض الاسود، ثم قم بتوصيل أسلاك دخل التيار الاصفر و الاحمر.
Right
Droit
Derecho
Sağ
يمين
Black striped
Noir rayé
Con raya negro
Çizgili siyah
مخطط اسود
Left
Gauche
Izquierdo
Sol
يسار
Black striped
Noir rayé
Con raya negro
Çizgili siyah
مخطط اسود
Right
Droit
Derecho
Sağ
يمين
Black striped
Noir rayé
Con raya negro
Çizgili siyah
مخطط اسود

Notes on the control leads

- *The ANT REM lead (blue) supplies +12 V DC when you turn on the unit. When the ANT REM lead is connected to the power antenna, the antenna will be extended as long as the unit is turned on.*
- *A power antenna without relay box cannot be used with this unit.*

Memory hold connection

When the yellow power input lead is connected, power will always be supplied to the memory circuit even when the ignition key is turned off.

Notes on speaker connection

- *Before connecting the speakers, turn the unit off.*
- *Use speakers with an impedance of 4 to 8 ohms, and with adequate power handling capacities. Otherwise, the speakers may be damaged.*
- *Do not connect the terminals of the speaker system to the car chassis, and do not connect the terminals of the right speaker with those of the left speaker.*
- *Do not attempt to connect the speakers in parallel.*
- *Do not connect any active speakers (with built-in amplifiers) to the speaker terminals of the unit. Doing so may damage the active speakers. Therefore, be sure to connect passive speakers to these terminals.*

Remarques sur les fils de contrôle

- *Le fil ANT REM (bleu) fournit une alimentation de + 12 V CC lors de la mise sous tension de l'appareil. Si le fil ANT REM est raccordé à l'antenne électrique, l'antenne restera déployée aussi longtemps que l'appareil sera sous tension.*
- *Une antenne électrique sans boîtier de relais ne peut pas être utilisée avec cet appareil.*

Connexion pour la conservation de la mémoire

Lorsque le fil d'entree d'alimentation jaune est connecté, le circuit de la memoire est alimenté en permanence même si la clé de contact est sur la position d'arrêt.

Remarques sur la connexion des haut-parleurs

- *Avant de raccorder les haut-parleurs, mettre l'appareil hors tension.*
- *Utiliser des haut-parleurs ayant une impédance de 4 à 8 ohms et une capacité adéquate sous peine de les endommager.*
- *Ne pas raccorder les bornes du système de haut-parleurs au châssis de la voiture et ne pas connecter les bornes du haut-parleur droit à celles du haut-parleur gauche.*
- *Ne pas tenter de raccorder les haut-parleurs en parallèle.*
- *Ne pas raccorder des haut-parleurs actifs (avec amplificateurs intégrés) aux bornes de haut-parleur de l'appareil sous peine de les endommager. Veiller à raccorder des haut-parleurs passifs à ces bornes.*

Notas sobre conductores de control

- *ANT REM (azul) suministra +12 V cuando conecte la alimentacion a la unidad. Al conectar el conductor de control ANT REM a la antena motorizada, ésta se extenderá siempre que se active la unidad.*
- *Con esta unidad no podrá emplearse una antena motorizada desprovista de caja de relé.*

Conexión para protección de la memoria

Si conecta el conductor de entrada amarillo, el circuito de la memoria recibirá siempre alimentación, incluso aunque ponga la llave de encendido en la posición OFF.

Notas sobre conexión de los altavoces

- *Antes de conectar los altavoces, desconecte la alimentación de la unidad.*
- *Utilice altavoces con una impedancia de 4 a 8 Ohmios, y con la capacidad máxima admisible adecuada, ya que de lo contrario podría dañarlos.*
- *No conecte los terminales del sistema de altavoces al chasis del automóvil, ni los del altavoz izquierdo a los del derecho.*
- *No intente conectar los altavoces en paralelo.*
- *No conecte altavoces activos (con amplificadores incorporados) a los terminales de altavoces de la unidad. Si lo hiciese, podría dañar tales altavoces. Por lo tanto, cerciórese de conectar altavoces pasivos a estos terminales.*

Kontrol telleri hakkında notlar

- ***ANT REM teli (mavi) cihazı açtığınızda +12 V DC akım taşır. Eğer ANT REM teli bir motorlu antene bağlanırsa, cihaz açık kaldığı sürece anten açık olarak kalacaktır.***
- ***Röle kutusu olmayan motorlu antenler bu cihazla berabeer kullanılamaz.***

Sürekli bağlanma

Sarı renktaki güç giriş teli kullanıldığında arabanın kontağı kapalı durumundayken bile cihaza elektronik devresine akım gelecektir.

Hoparlör bağlantısı hakkında notlar

- ***Hoparlörleri takmaya başlamadan önce cihazı kapatınız.***
- ***4 ile 8 ohm arasındaki dirence ve yeterli güce sahip hoparlörler kullanınız. Aksi takirde hoparlörlere zarar görebilir.***
- ***Hoparlörlere giden kablolarını uçlarını arabanın dış kasasına ve sağ taraftaki hoparlörün tellerini sol taraftaki hoparlörün kablosuna değdirmeyiniz.***
- ***Hoparlörleri paralel bağlamaya kalkmayınız.***
- ***Hoparlör çıkışlarına aktif hoparlör (kendi amfisi olan) bağlamayınız. Bu hareket aktif hoparlörün bozulmasına neden olabilir. Bu nedenle hoparlör çıkışlarına her zaman pasif hoparlör bağlayınız.***

ملاحظات حول اسلاك التحكم

- السلك ANT REM (ازرق) يقوم بتزويد تيار مباشر + ١٢ فولت عند تشغيل الوحدة. عند توصيل السلك ANT REM بالهوائي الآلي، يتم تمديد الهوائي طالما الوحدة في وضع التشغيل.
- لا يمكن استعمال هوائي آلي دون صندوق مرحل مع هذه الوحدة

توصيلة حفظ محتويات الذاكرة

عند توصيل سلك دخل التيار الاصفر، يتم دائماً إمداد التيار الى دائرة الذاكرة عندما يكون مفتاح تشغيل المحرك في وضع الايقاف

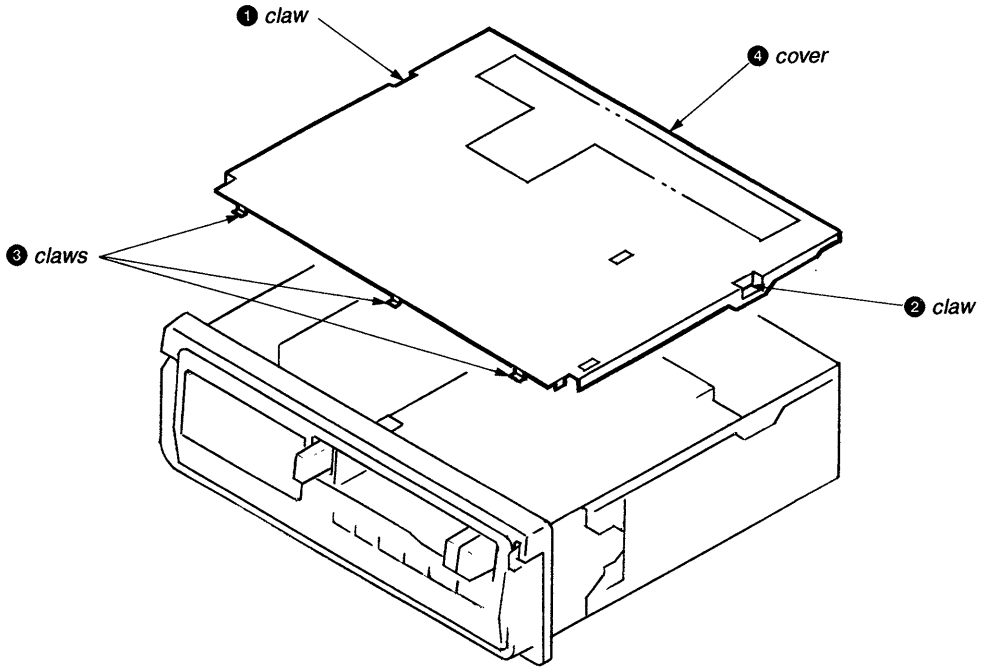
ملاحظات حول توصيل سماعات التكبير

- قبل توصيل سماعات التكبير، اوقف تشغيل الوحدة
- إستعمال سماعات تكبير بمعاوقة من ٤ الى ٨ أوم، وسعة تحمّل قدرة كافية. اذا لم تكن كذلك، يمكن لسماعات التكبير ان تتلف.
- لا تعمد الى توصيل أطراف توصيل سماعات التكبير بهيكل السيارة ولا تعمد الى توصيل اطراف توصيل السماعة اليمنى بتلك الخاصة بالسماعات اليسرى.
- لا تحاول توصيل سماعات التكبير على التوازي
- لا تعمد الى توصيل اي سماعات تكبير نشطة (مجهز بمضخم داخلي) بأطراف توصيل سماعات التكبير في الوحدة. ان هذا العمل يمكن ان يتلف سماعات التكبير النشطة لذا تأكد من توصيل سماعات تكبير غير نشطة بهذه الاطراف

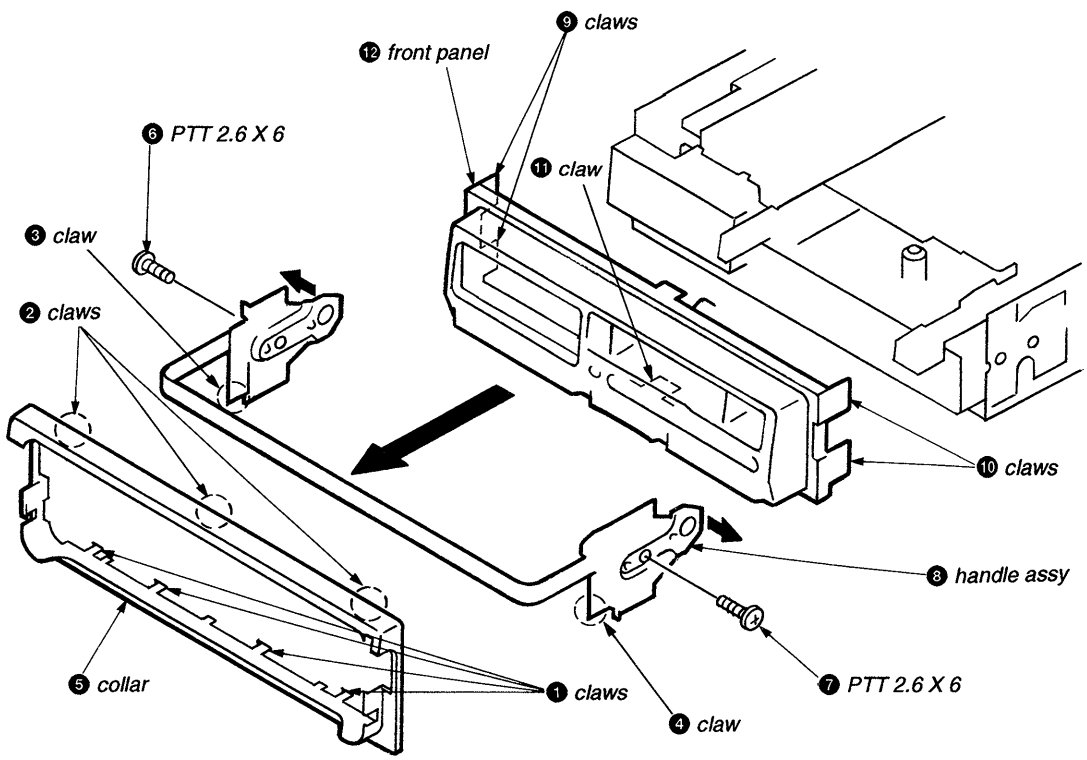
SECTION 2
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

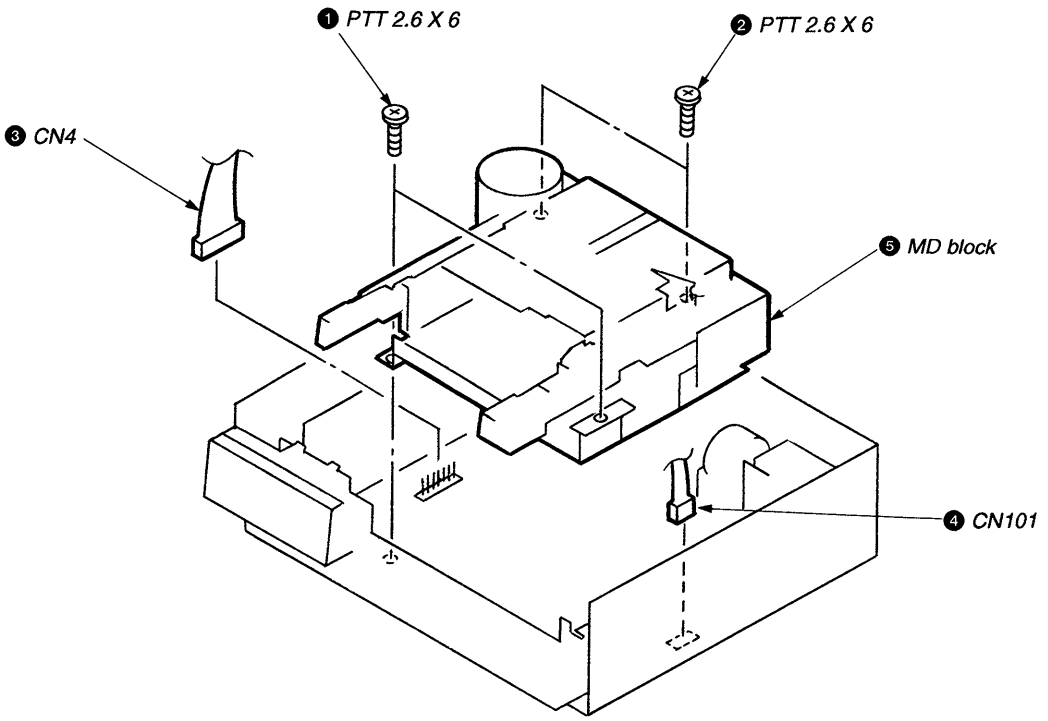
2-1. COVER



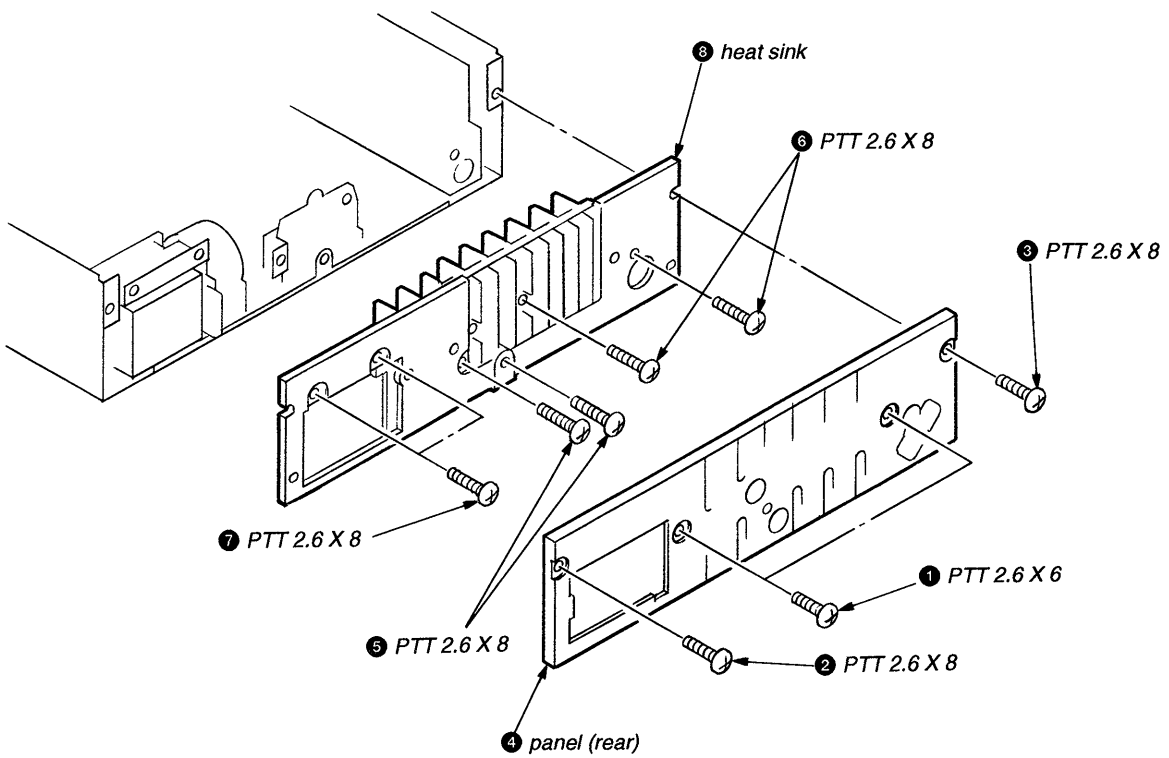
2-2. FRONT PANEL



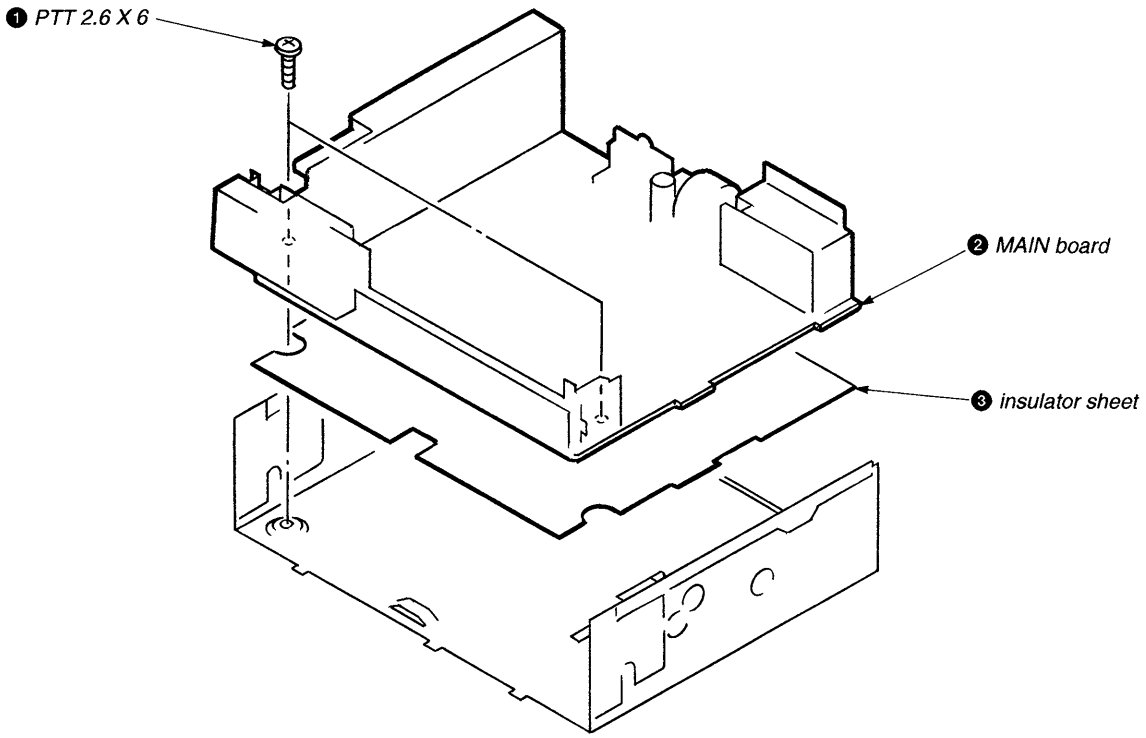
2-3. MD BLOCK



2-4. HEAT SINK



2-5. MAIN BOARD



SECTION 3
MECHANICAL ADJUSTMENTS

PRECAUTION

1. Wipe the following components with an absorbent cotton cloth moistened with alcohol before adjustment :
   PB head — Pinch roller
   Idler — Rubber belt
   Capstan
2. Demagnetize the PB head using a head demagnetizer.
3. Be careful not to use a magnetized screwdriver.
4. After the adjustment is completed, lock the adjustment parts using screws.
5. Unless otherwise specified, make adjustments at the specified voltage (14.4 V).

Torque Measurement

Mode	Torque Meter	Meter Reading
FWD	CQ-102C	40 – 75 g•cm (0.56 – 1.04 oz•inch)
FWD Back Tension		1 – 5 g•cm (0.01 – 0.06 oz•inch)
REV	CQ-102RC	40 – 75 g•cm (0.56 – 1.04 oz•inch)
REV Back Tension		1 – 5 g•cm (0.01 – 0.06 oz•inch)
FF, REW	CQ-201B	45 – 150 g•cm (0.63 – 2.08 oz•inch)

SECTION 4
ELECTRICAL ADJUSTMENTS

DECK SECTION | **0 dB = 0.775 V**

1. The adjustments should be performed in the order given in this service manual.
2. The adjustments should be performed for both L-CH and R-CH.

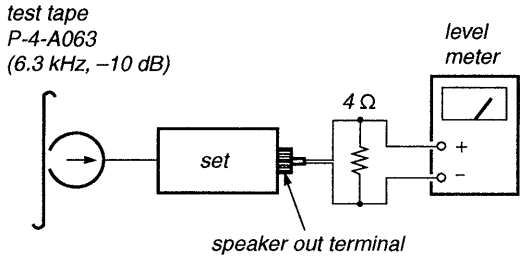
Test Tape

Type	Signal	Used for
P-4-A063	6.3 kHz, –10 dB	head azimuth adjustment
WS-48A	3 kHz, 0 dB	tape speed adjustment

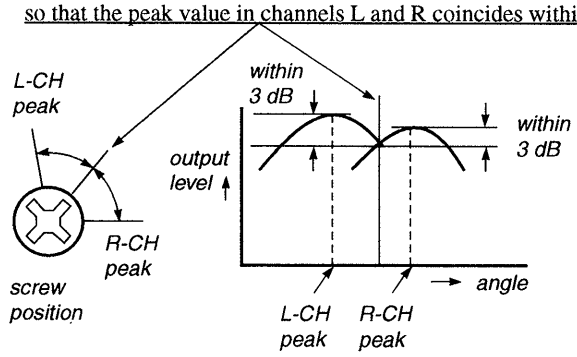
PB Head Azimuth Adjustment

Procedure :

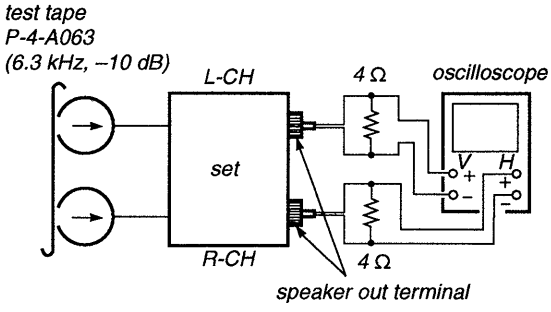
1. Put the set into the FWD PB mode.

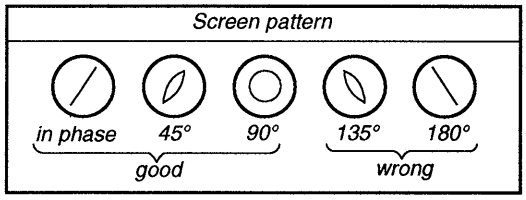


2. Turn the screw and check the output peak value. Adjust the screw so that the peak value in channels L and R coincides within 3 dB.



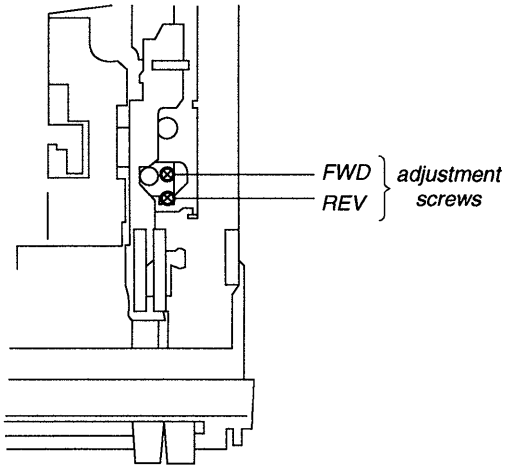
3. Check the phase in the FWD PB mode.





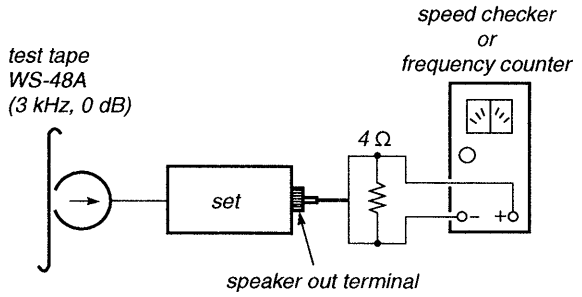
4. Repeat the above adjustment for the REV PB mode.
5. Check that output level difference between FWD PB mode and REV PB mode is within 4 dB.

Adjustment Location :



Tape Speed Adjustment

Setting :



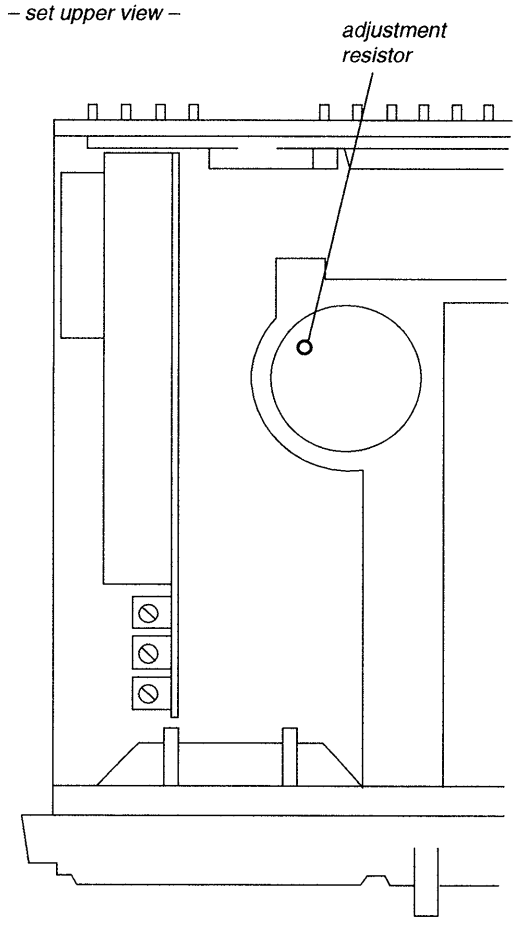
Procedure :

1. Put the set into the FWD PB mode.
2. Adjust adjustment resistor for inside capstan motor so that the reading on the speed checker or frequency counter becomes in specification.

Specification : Constant speed

Speed checker	Frequency counter
– 2.0 to + 3.0 %	2,940 to 3,090 Hz

Adjustment Location :



TUNER SECTION | 0 dB = 1 µV

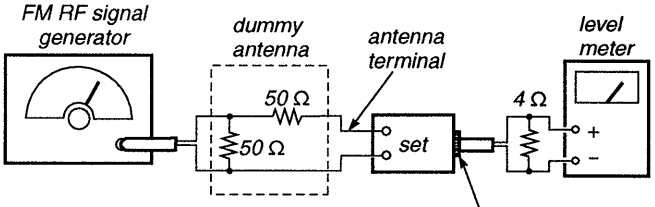
Cautions during repair

When the FM tuner is defective, replace it by a new one because its internal block is difficult to repair.

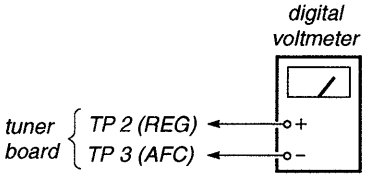
FM 0V Adjustment

Setting :

TUNER button : FMI



Carrier frequency : 98.0 MHz
Output level : 60 dB (1 mV)
Mode : mono
Modulation : 1 kHz, 75 kHz deviation (100 %)



Procedure :

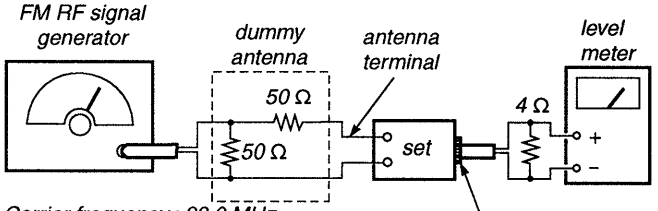
1. Tune the set to 98.0 MHz.
2. Adjust T56 so that the reading on the digital voltmeter becomes to 0 ± 0.02 V.

Adjustment Location : See page 15.

FM High Cut Control Adjustment

Setting :

TUNER button : FMI



Carrier frequency : 98.0 MHz
Output level : 60 dB (1 mV)
Mode : mono
Modulation : 10 kHz, 75 kHz deviation (100 %)

Procedure :

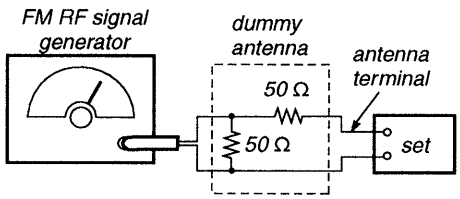
1. Tune the set to 98.0 MHz.
2. The then output level is supposing that (A) dB.
3. Adjust RV53 so that the output level is (A) – 4 ± 1 dB then signal generator input set to 20 dB.

Adjustment Location : See page 15.

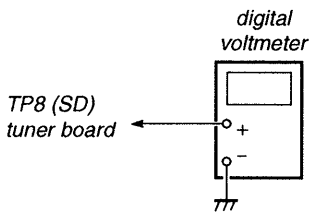
FM SEEK Stop Adjustment

Setting :

TUNER button : FMI



Carrier frequency : 98.0 MHz
Output level : 22 dB (12.6 μV)
Mode : mono
Modulation : 1 kHz, 22.5 kHz deviation (30 %)



Procedure:

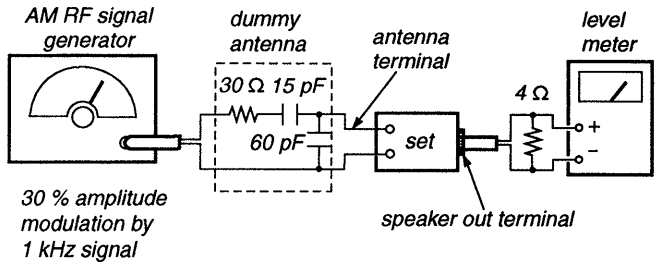
1. Short the jumper wire between TP9 and VCC (+ 5 V).
2. Adjust RV51 so that the reading on the digital voltmeter becomes to 3 Vdc.
3. After adjustment is completed remove the jumper wire.

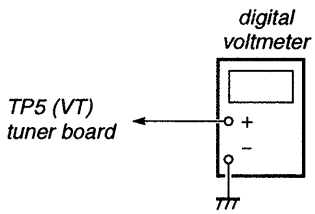
Adjustment Location : See page 15.

MW VT Adjustment

Setting :

TUNER button : MW





Procedure :

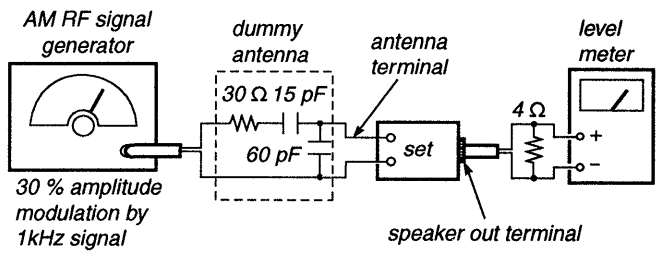
1. Tune the set to 531 kHz.
2. Adjust L54 so that the reading on the digital voltmeter becomes to 1.5 ± 0.03 V.
3. Tune the set to 1,602 kHz.
4. Adjust CT53 so that the reading on the digital voltmeter becomes to 7.2 ± 0.1 V.

Adjustment Location : See page 15.

MW IF Adjustment

Setting :

TUNER button : MW



Procedure :

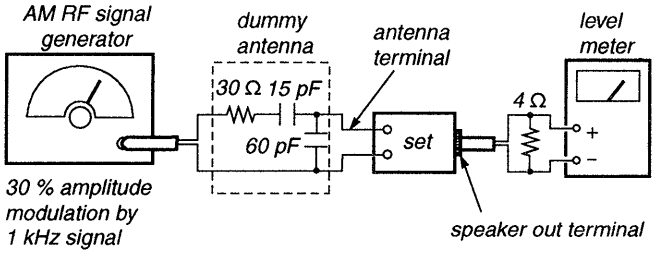
1. Tune the set to 999 kHz.
2. Adjust T55 so that the reading on the level meter becomes to maximum.

Adjustment Location : See page 15.

MW Tracking Adjustment

Setting :

TUNER button : MW



Procedure :

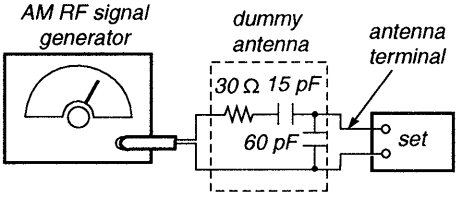
1. Tune the set to 603 kHz.
2. Adjust T51 and T53 so that the reading on the level meter becomes to maximum.
3. Tune the set to 1,512 kHz.
4. Adjust CT51 and CT52 so that the reading on the level meter becomes to maximum.

Adjustment Location : See page 15.

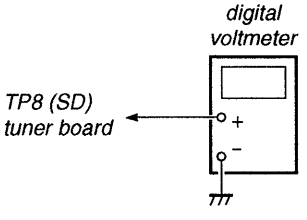
MW SEEK Stop Adjustment

Setting :

TUNER button : MW



Carrier frequency : 999 kHz
Output level : 33 dB (44.7 μV)
Modulation : no modulation



Procedure :

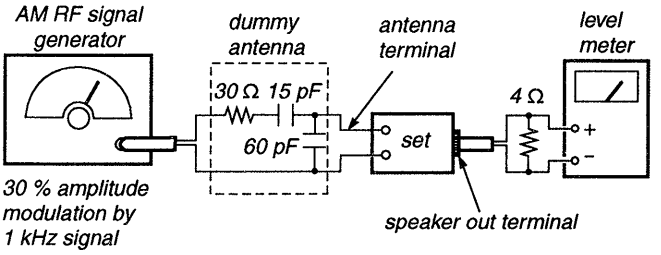
1. Short the jumper wire between TP9 and VCC (+ 5 V). (See page 15.)
2. Adjust RV52 so that the reading on the digital voltmeter becomes to 3 Vdc.
3. After adjustment is completed remove the jumper wire.

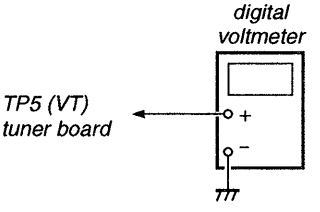
Adjustment Location : See page 15.

LW VT Adjustment

Setting :

TUNER button : LW





Procedure :

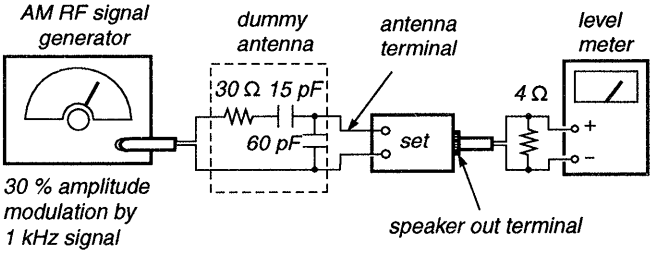
1. Tune the set to 153 kHz.
2. Adjust L53 so that the reading on the digital voltmeter becomes to 3.1 ± 0.05 V.
3. Tune the set to 279 kHz.
4. Confirm that the reading on the digital voltmeter becomes to 7.0 ± 0.3 V.

Adjustment Location : See page 15.

LW Tracking Adjustment

Setting :

TUNER button : LW



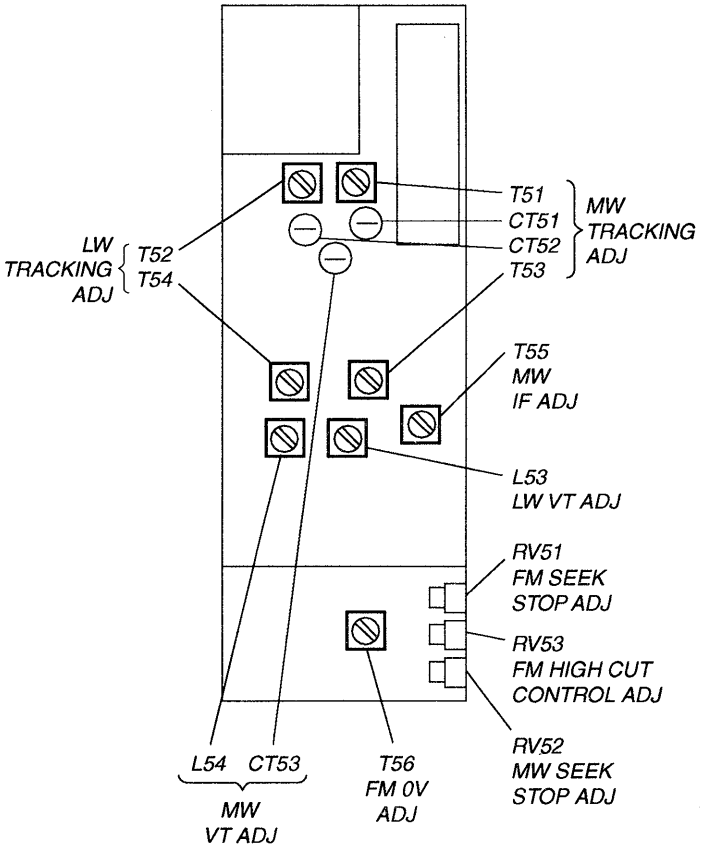
Procedure :

1. Tune the set to 153 kHz.
2. Adjust T52 and T54 so that the reading on the level meter becomes to maximum.

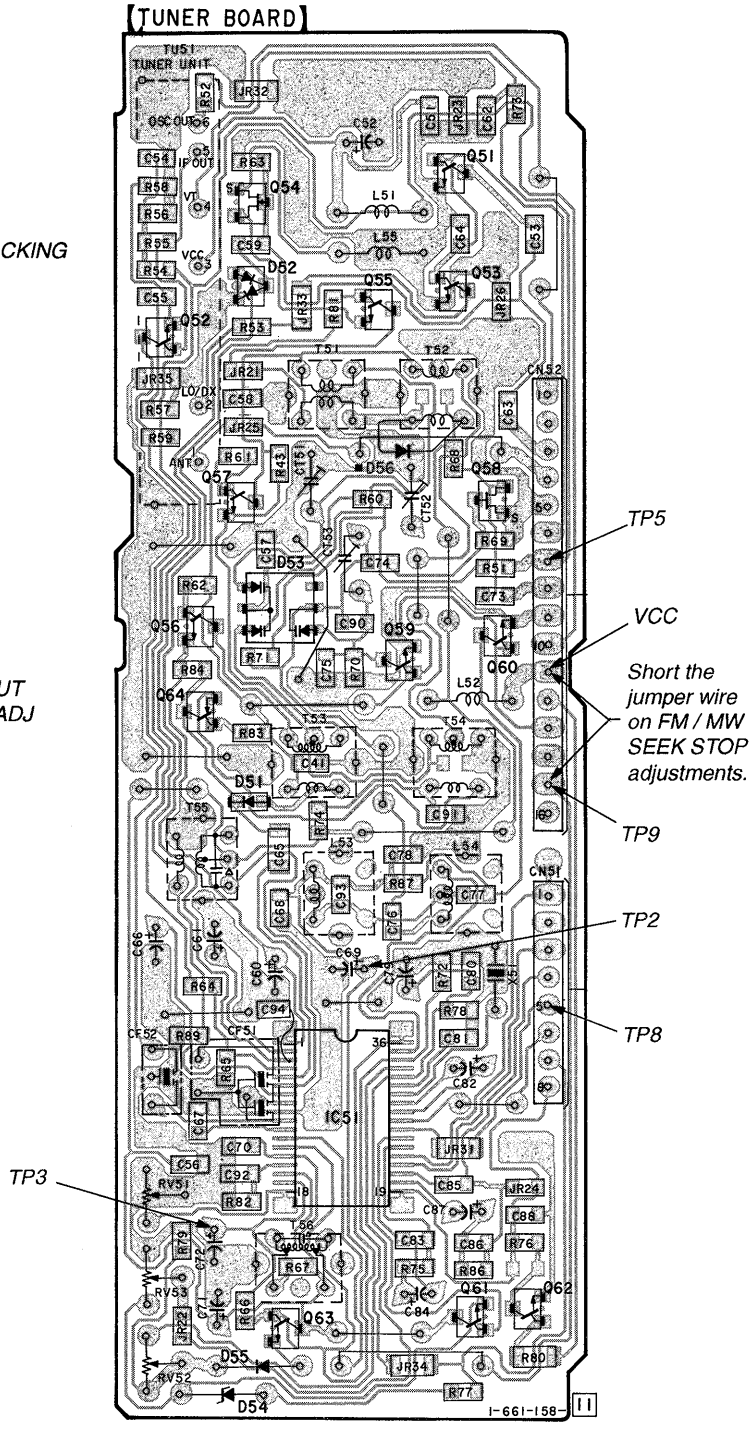
Adjustment Location : See page 15.

Adjustment Location : tuner board

– tuner board (component side) –



– tuner board (conductor side) –



SECTION 5
DIAGRAMS

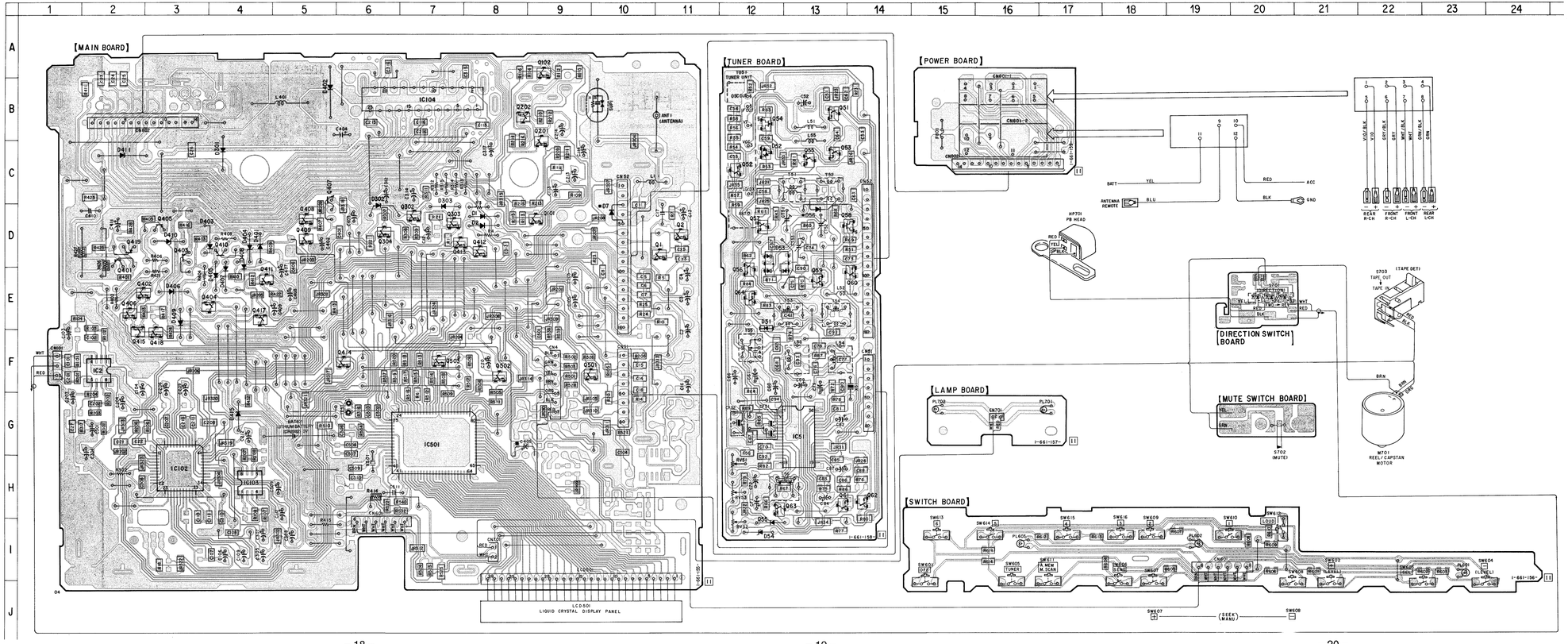
5-1. PRINTED WIRING BOARDS

• Semiconductor Location

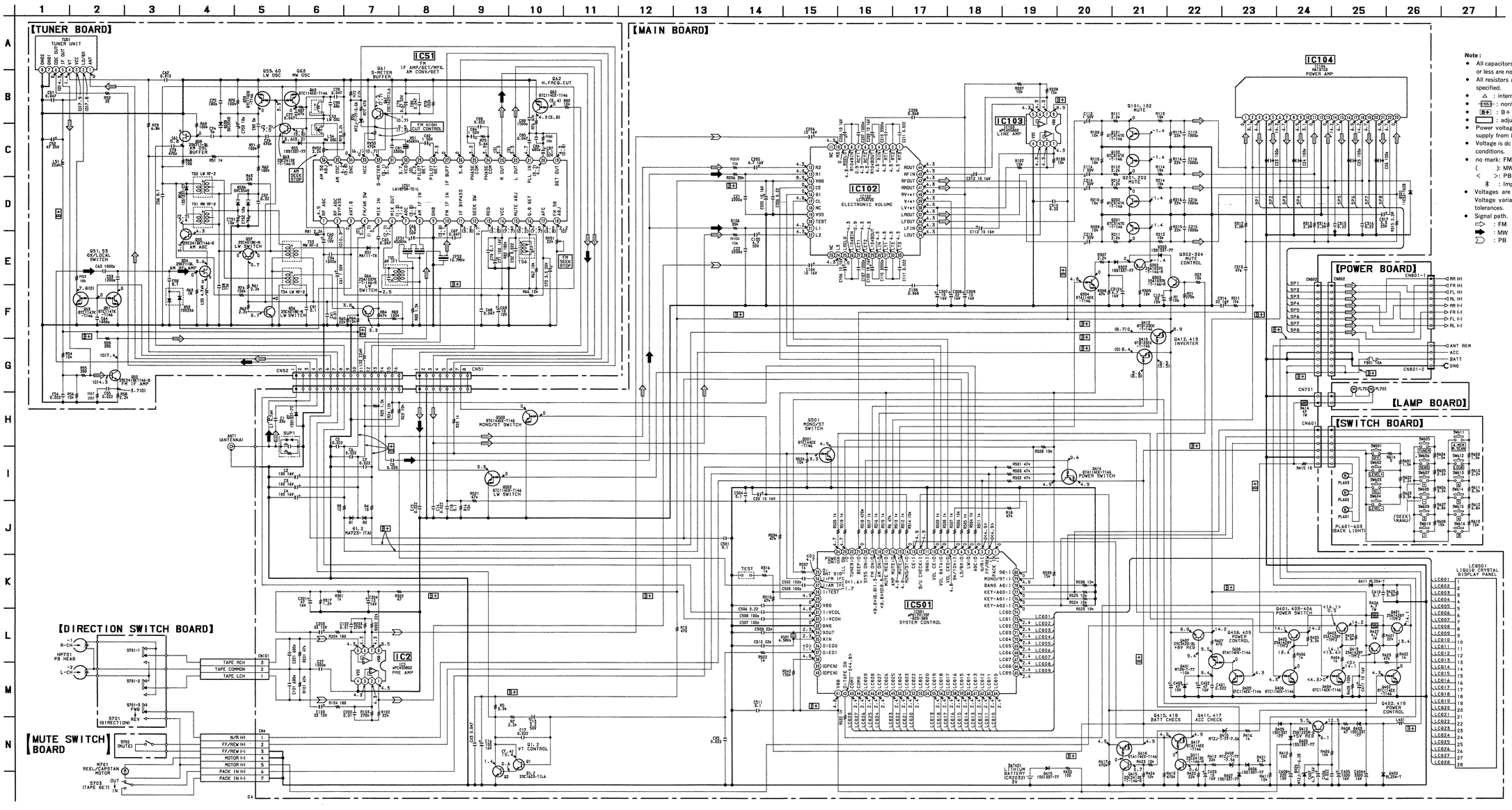
Ref. No.	Location	Ref. No.	Location
D1	D-8	Q55	C-13
D2	D-8	Q56	D-12
D7	D-10	Q57	D-12
D51	E-12	Q58	D-13
D52	C-12	Q59	E-13
D53	D-12	Q60	E-14
D54	I-12	Q61	H-13
D55	I-12	Q62	H-14
D56	D-13	Q63	H-12
D301	C-4	Q64	E-12
D302	D-6	Q101	D-9
D303	D-7	Q102	A-9
D401	D-4	Q201	B-9
D402	B-5	Q202	B-8
D403	D-4	Q302	D-7
D404	D-4	Q303	D-7
D405	E-4	Q304	D-6
D406	E-3	Q401	D-2
D407	E-4	Q402	E-2
D408	D-4	Q403	D-3
D409	E-3	Q404	E-4
D410	D-3	Q405	D-3
D411	C-2	Q406	E-2
D415	G-4	Q407	C-5
		Q408	D-5
IC2	F-2	Q409	D-5
IC51	G-13	Q410	D-4
IC102	H-3	Q411	E-4
IC103	H-4	Q412	D-8
IC104	B-7	Q413	D-7
IC501	G-7	Q414	F-6
		Q415	F-2
Q1	D-11	Q417	E-4
Q2	D-11	Q418	F-3
Q51	B-13	Q419	D-2
Q52	C-12	Q501	F-9
Q53	C-13	Q502	F-8
Q54	B-12	Q503	F-7

Note :

- ○— : parts extracted from the component side.
- —— : parts extracted from the conductor side.
- ■ : parts mounted on the conductor side.
- ▒▒ : Pattern on the side which is seen.

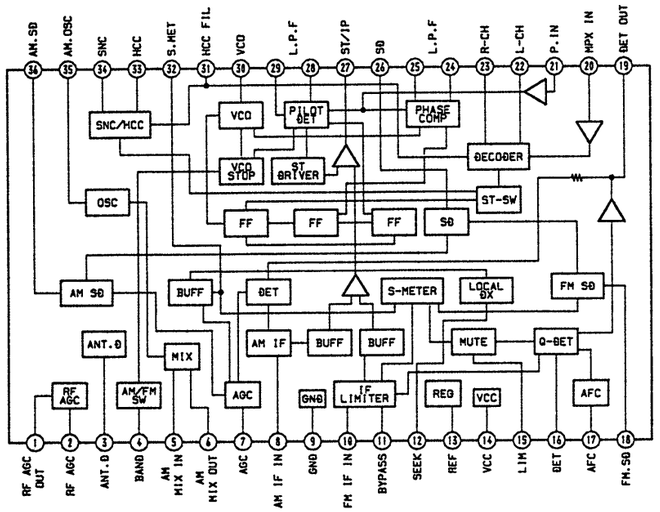


5-2. SCHEMATIC DIAGRAM • Refer to page 25 for IC Block Diagrams.

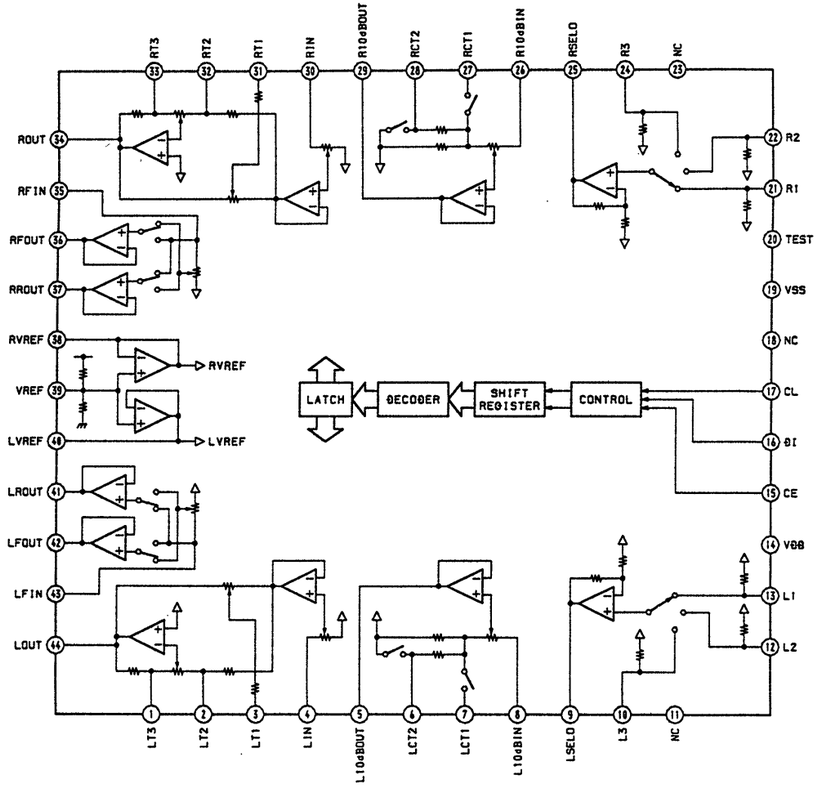


• IC Block Diagrams

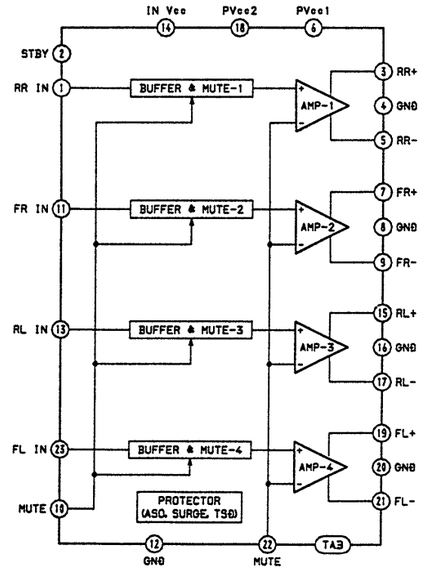
IC51 LA1875M-TE-L



IC102 LC75372E



IC104 HA13153

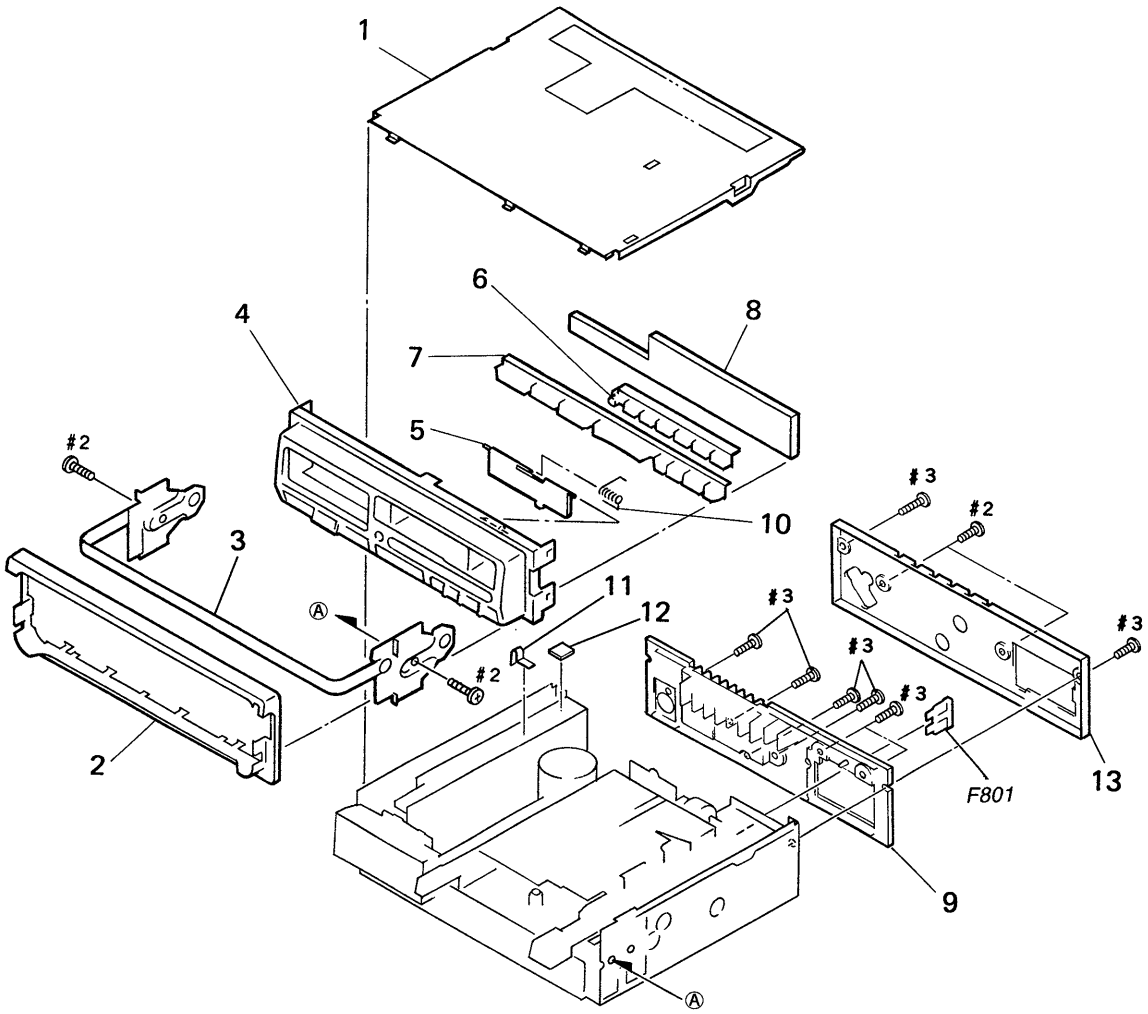


SECTION 6
EXPLODED VIEWS

NOTE:

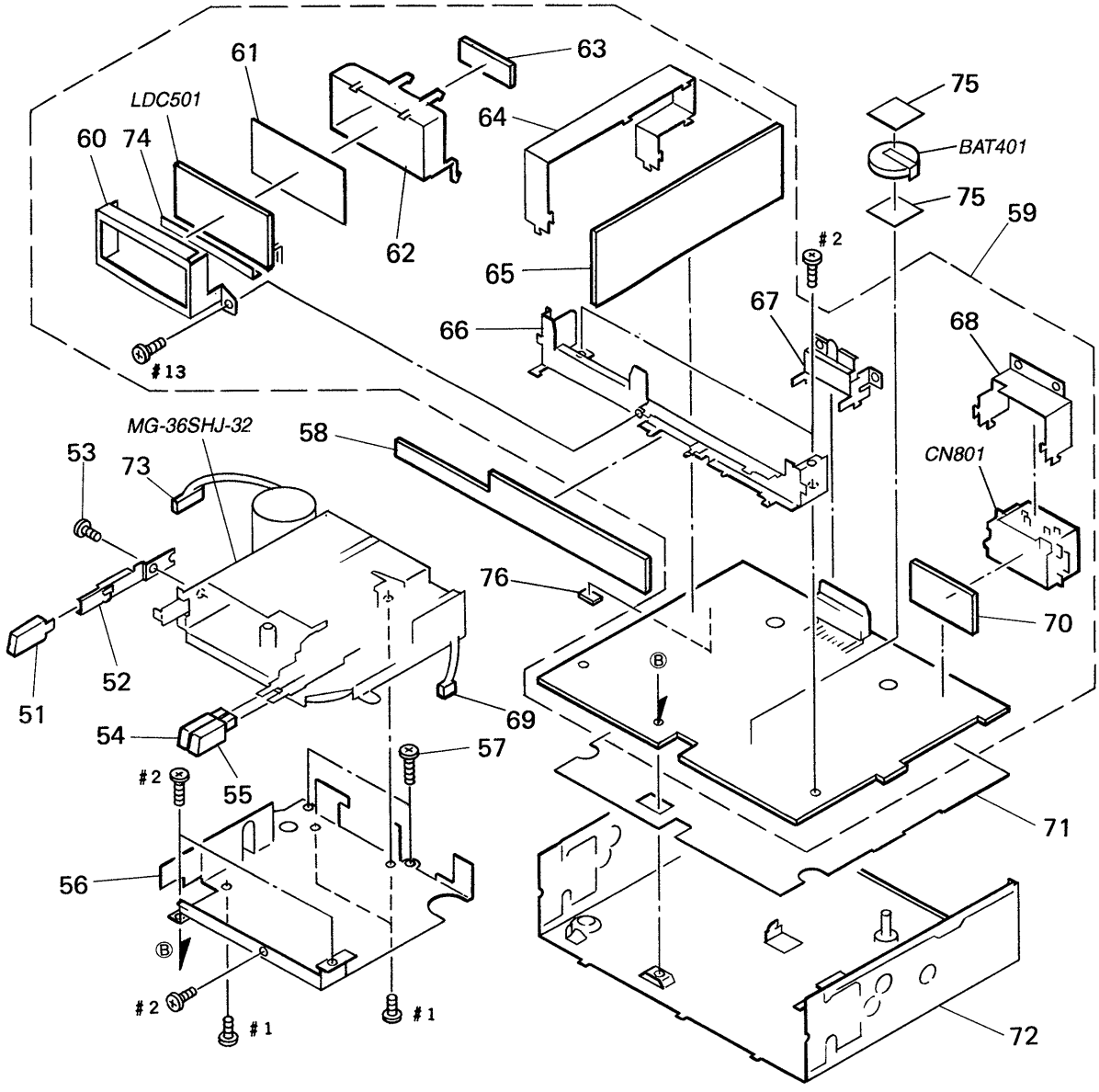
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE) ... (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

6-1. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
* 1	3-935-559-01	COVER	
2	3-935-578-01	COLLAR	
3	X-3372-126-1	HANDLE ASSY	
4	3-935-577-11	PANEL, FRONT	
5	3-935-583-11	DOOR, CASSETTE	
6	3-935-587-01	BUTTON (1-6)	
7	3-935-588-01	BUTTON (S/MANU)	
8	3-935-591-01	PLATE (BUTTON), LIGHT GUIDE	
* 9	3-935-592-01	HEAT SINK	
10	3-935-593-01	SPRING (C DOOR)	
11	3-938-459-01	PLATE, GROUND	
* 12	3-938-991-01	SPACER (RF)	
* 13	3-938-458-01	PANEL (REAR)	
F801	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) 10A	

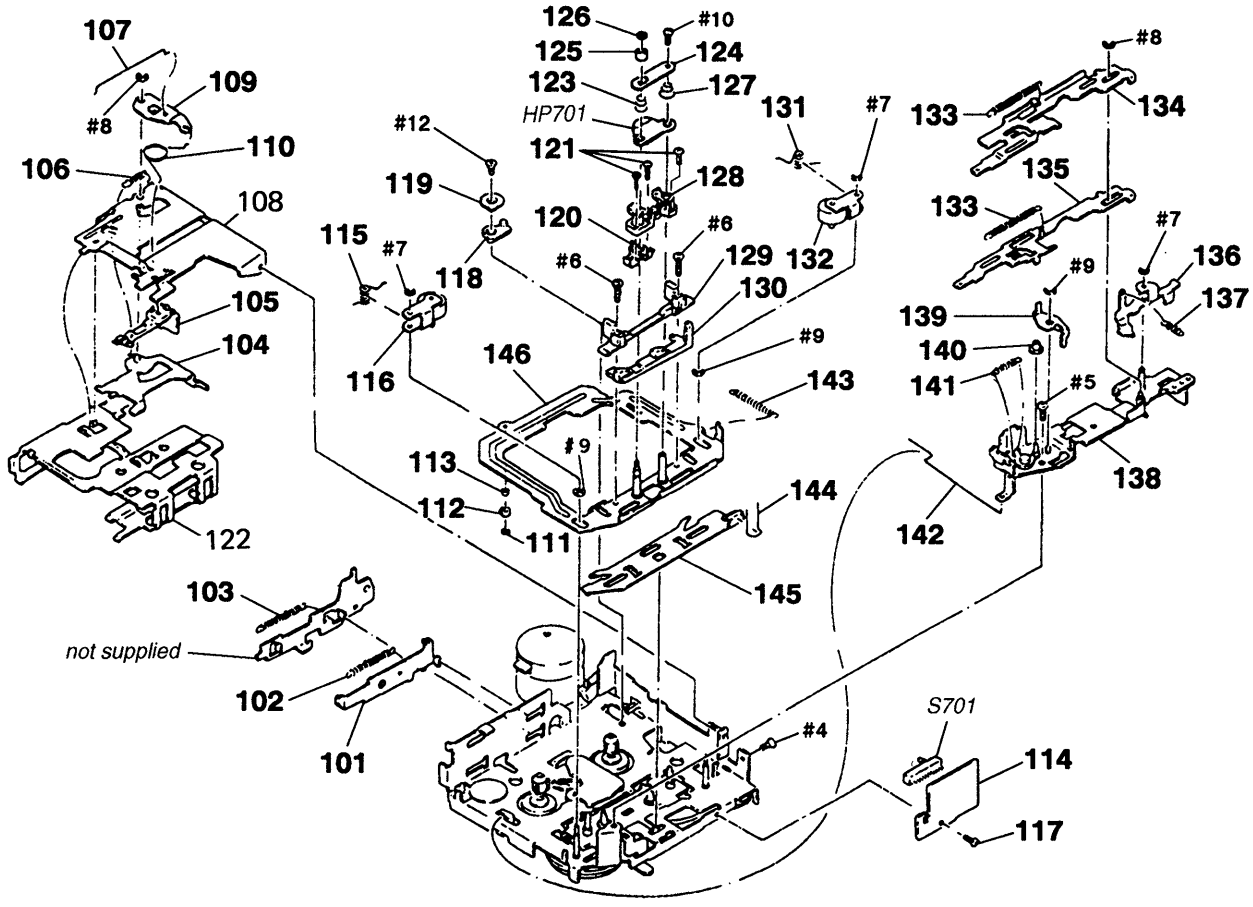
6-2. CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
51	3-935-584-01	BUTTON (EJECT)	
* 52	3-935-569-01	LEVER (EJECT)	
53	3-372-033-11	SCREW (2.6X3), +P	
54	3-935-586-01	BUTTON (REW)	
55	3-935-585-01	BUTTON (FF)	
56	3-935-560-01	BRACKET (MD)	
57	3-919-171-01	SCREW (2.6X6) (C TIGHT)	
* 58	A-3309-297-A	SWITCH BOARD, COMPLETE	
* 59	A-3309-286-A	MAIN BOARD, COMPLETE	
* 60	3-935-574-01	PLATE (LCD), GROUND	
* 61	3-935-581-01	SHEET (REFLECTOR)	
* 62	3-935-580-01	HOLDER (LCD)	
* 63	1-661-157-11	LAMP BOARD	
* 64	3-935-572-01	BRACKET (RF)	
* 65	1-661-158-11	TUNER BOARD	

Ref. No.	Part No.	Description	Remark
* 66	3-935-557-01	CHASSIS (FRONT)	
* 67	3-935-558-01	BRACKET (IC)	
* 68	3-935-571-01	BRACKET (CONNECTOR)	
69	1-769-261-11	CORD (WITH CONNECTOR) 3P	
* 70	1-661-159-11	POWER BOARD	
* 71	3-935-589-01	SHEET, INSULATING	
* 72	X-3372-129-1	CHASSIS (MAIN) ASSY	
73	1-769-262-11	CORD (WITH CONNECTOR) 7P	
* 74	3-938-989-01	SHEET (LCD)	
* 75	3-936-512-01	SHEET (BATTERY)	
* 76	3-938-990-01	SPACER (MAIN)	
BAT401	1-528-225-31	BATTERY, LITHIUM (CR2032) 3V	
CN801	1-770-228-11	CONNECTOR	
LCD501	1-801-262-11	DISPLAY PANEL, LIQUID CRYSTAL	

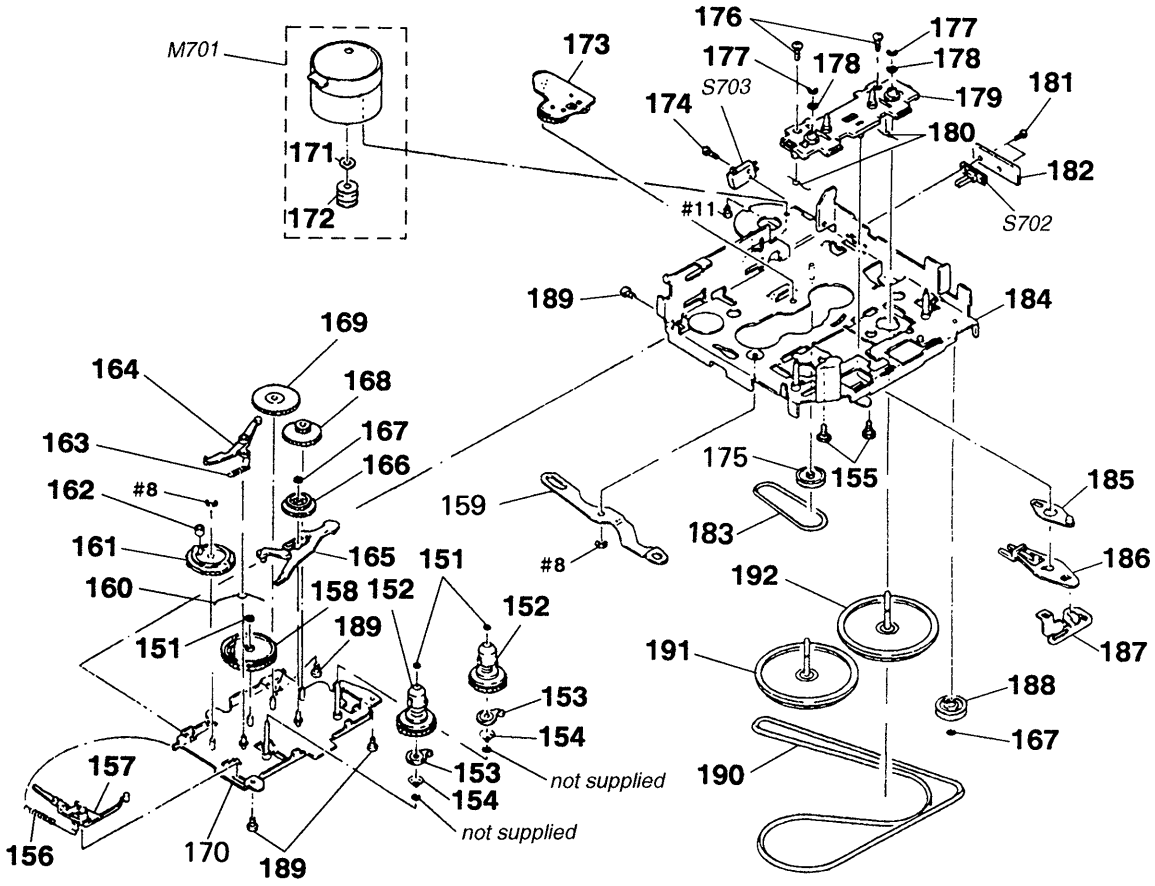
6-3. MECHANISM DECK SECTION 1
(MG-36SHJ-32)



Ref. No.	Part No.	Description	Remark
* 101	3-392-978-01	LEVER, EJECT	
102	3-392-950-01	SPRING	
103	3-392-951-01	SPRING	
* 104	3-392-921-01	LOCK ASSY, EJECT CAM	
105	3-392-972-01	HOOKER, TAPE	
106	3-392-953-01	SPRING	
107	3-392-969-01	LINK, RETURN	
108	3-375-383-01	HANGER (X), CASSETTE	
* 109	3-392-932-01	PLATE, CENTER	
110	3-392-961-01	SPRING (B)	
111	3-570-615-00	POLY-WASHER (DIA.1.2)	
112	3-392-945-01	ROLLER (A), H.P	
113	3-392-942-01	ROLLER (B), H.P	
114	3-392-970-01	CHASSIS, SWITCH (DIRECTION SWITCH BOARD)	
115	3-392-958-01	SPRING (R)	
116	3-375-378-01	ARM (R) ASSY, PINCH	
* 117	4-908-792-11	SCREW (B2)	
118	3-372-244-01	ARM (N), MUTE	
* 119	3-397-427-01	COLLAR, MUTE ARM	
120	3-377-908-01	SHIM (X), ADJUSTOR	
121	3-375-379-01	SCREW, AZIMUTH	
122	3-375-384-01	HOLDER (X), CASSETTE	
123	3-392-956-01	SPRING (A)	
* 124	3-392-930-01	RETAINER, SPRING	

Ref. No.	Part No.	Description	Remark
125	3-392-943-01	ROLLER, FF	
126	3-676-387-00	POLY-SLIDER (DIA.1.6)	
127	3-392-955-01	SPRING (A)	
* 128	3-379-142-01	ARM (B), ADJUSTOR	
129	3-392-984-02	GUIDE, TAPE	
130	3-377-909-02	LINK (X), ADJUSTOR	
131	3-392-957-01	SPRING (F)	
132	3-375-377-01	ARM (F) ASSY, PINCH	
133	3-392-948-01	SPRING	
* 134	3-392-980-01	LEVER, FF	
* 135	3-392-981-01	LEVER, REW	
* 136	3-392-935-01	ARM, LOCK	
137	3-392-917-01	SPRING	
* 138	3-372-242-01	BRACKET ASSY (D), LEVER	
* 139	3-392-933-01	LEVER (B), CHANGE	
140	3-392-994-01	ROLLER, PROGRAM	
141	3-392-954-01	SPRING	
142	3-372-243-01	LINK (B), SELECTOR	
143	3-392-952-01	SPRING	
144	3-392-962-01	SPRING	
* 145	3-392-919-01	ARM ASSY, F,R SELECTION	
* 146	3-392-975-05	PLATE ASSY (S), HEAD	
HP701	1-543-717-11	HEAD, MAGNETIC (PLAYBACK)	
S701	1-692-502-11	SWITCH, SLIDE (DIRECTION)	

6-4. MECHANISM DECK SECTION 2
(MG-36SHJ-32)



Ref. No.	Part No.	Description	Remark
151	3-676-387-00	POLY-SLIDER (DIA.1.6)	
152	3-376-196-01	SPINDLE ASSY (S), REEL	
153	3-375-380-01	CAM ASSY, DETECTION	
154	3-370-619-01	SPRING, BACK TENSION	
155	3-392-918-01	SCREW, EJECT HOOK	
156	3-392-959-01	SPRING	
157	3-392-985-02	RATCHET	
158	3-392-990-01	GEAR, DETECTION	
* 159	3-392-979-01	LEVER, REVERSE	
160	3-392-960-01	SPRING	
161	3-392-987-01	GEAR, SELECTOR	
162	3-392-944-01	COLLAR (SELECTOR GEAR)	
163	3-375-131-01	SPRING, GEAR LOCK ARM	
164	3-392-989-02	ARM, GEAR LOCK	
165	3-392-986-01	ARM, SENSOR	
166	3-392-915-01	GEAR, IDLE	
167	3-570-615-00	POLY-WASHER (DIA.1.2)	
168	3-392-936-01	GEAR (A)	
169	3-392-937-01	GEAR (B)	
* 170	3-392-976-01	BASE ASSY, REEL	
* 171	3-392-912-01	WASHER, MYLAR	
* 172	3-392-913-01	PULLEY, MOTOR	
173	3-392-916-01	ARM ASSY, TU GEAR	

Ref. No.	Part No.	Description	Remark
174	3-318-203-11	SCREW (B1.7X6), TAPPING	
175	3-392-938-01	GEAR, PULLY	
176	3-318-204-81	SCREW (M1.7X3), TAPPING	
177	3-590-768-00	RING (A), E	
178	3-701-437-11	POLY-SLIDER (A)	
* 179	3-375-381-01	BRACKET ASSY (X), CM	
180	3-392-963-01	SPRING (R)	
181	3-318-204-91	SCREW (M1.7X4), TAPPING	
182	3-375-376-01	MUTE (PWB) (MUTE SWITCH BOARD)	
183	3-375-375-02	BELT (C), SUB	
* 184	3-392-974-01	CHASSIS ASSY, MAIN	
* 185	3-392-925-01	ARM (A) ASSY, F.R	
* 186	3-392-939-01	ARM, FF	
* 187	3-392-934-01	ARM (B), F.R	
188	3-392-941-01	PULLEY (A), IDLE	
* 189	4-908-792-11	SCREW (B2)	
190	3-392-967-01	BELT, MAIN	
191	3-392-995-02	FLYWHEEL ASSY (BR)	
192	3-392-926-02	FLYWHEEL ASSY (BF)	
M701	X-3365-046-1	MOTOR ASSY (REEL/CAPSTAN)	
S702	1-692-065-11	SWITCH, LEAF (MUTE)	
S703	1-554-790-21	SWITCH, POWER (TAPE DET)	

SECTION 7
ELECTRICAL PARTS LIST

LAMP **MAIN**

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F : nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : μ, for example:
  uA.. : μA.. uPA.. : μPA..
  uPB.. : μPB.. uPC.. : μPC.. uPD.. : μPD..
- CAPACITORS
  uF : μF
- COILS
  uH : μH

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
*	1-661-157-11	LAMP BOARD			
		**********			
		< PILOT LAMP >			
PL701	1-517-566-11	LAMP, PILOT			
PL702	1-517-566-11	LAMP, PILOT			
**********					
*	A-3309-286-A	MAIN BOARD, COMPLETE			
		**********			
*	3-935-557-01	CHASSIS (FRONT)			
*	3-935-558-01	BRACKET (IC)			
*	3-935-571-01	BRACKET (CONNECTOR)			
*	3-935-572-01	BRACKET (RF)			
*	3-935-574-01	PLATE (LCD), GROUND			
*	3-935-580-01	HOLDER (LCD)			
*	3-935-581-01	SHEET (REFLECTOR)			
	7-621-773-86	SCREW +PTT 2.6X4 (S)			
		< JACK >			
ANT1	1-764-808-14	JACK (ANTENNA)			
		< CAPACITOR >			
C1	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C2	1-126-933-11	ELECT	100uF	20%	16V
C3	1-126-933-11	ELECT	100uF	20%	16V
C4	1-126-933-11	ELECT	100uF	20%	16V
C5	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C6	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C7	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C8	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C12	1-124-229-00	ELECT	33uF	20%	10V
C13	1-124-257-00	ELECT	2.2uF	20%	50V
C14	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C15	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C16	1-126-933-11	ELECT	100uF	20%	16V
C17	1-136-157-00	FILM	0.022uF	5%	50V
C18	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C20	1-126-157-11	ELECT	10uF	20%	16V

Ref. No.	Part No.	Description			Remark
C21	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C22	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C23	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C24	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C25	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C26	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C27	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C101	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C102	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C103	1-124-229-00	ELECT	33uF	20%	10V
C104	1-126-157-11	ELECT	10uF	20%	16V
C105	1-126-288-11	ELECT	4.7uF	20%	16V
C106	1-126-157-11	ELECT	10uF	20%	16V
C107	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C108	1-164-344-11	CERAMIC CHIP	0.068uF	10%	25V
C109	1-126-157-11	ELECT	10uF	20%	16V
C110	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C111	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C112	1-126-157-11	ELECT	10uF	20%	16V
C113	1-126-301-11	ELECT	1uF	20%	50V
C114	1-126-301-11	ELECT	1uF	20%	50V
C115	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C116	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C201	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C202	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C203	1-124-229-00	ELECT	33uF	20%	10V
C204	1-126-157-11	ELECT	10uF	20%	16V
C205	1-126-288-11	ELECT	4.7uF	20%	16V
C206	1-126-157-11	ELECT	10uF	20%	16V
C207	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C208	1-164-157-11	CERAMIC CHIP	0.068uF	10%	25V
C209	1-126-157-11	ELECT	10uF	20%	16V
C210	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C211	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C212	1-126-157-11	ELECT	10uF	20%	16V
C213	1-126-301-11	ELECT	1uF	20%	50V
C214	1-126-301-11	ELECT	1uF	20%	50V
C215	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C216	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C301	1-124-589-11	ELECT	47uF	20%	16V

MAIN

Ref. No.	Part No.	Description			Remark
C304	1-126-157-11	ELECT	10uF	20%	16V
C305	1-126-157-11	ELECT	10uF	20%	16V
C306	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C307	1-126-157-11	ELECT	10uF	20%	16V
C308	1-124-234-00	ELECT	22uF	20%	16V
C309	1-126-157-11	ELECT	10uF	20%	16V
C310	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C312	1-126-288-11	ELECT	4.7uF	20%	16V
C313	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C314	1-124-234-00	ELECT	22uF	20%	16V
C315	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C316	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C317	1-126-162-11	ELECT	3.3uF	20%	50V
C401	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C402	1-124-589-11	ELECT	47uF	20%	16V
C403	1-124-589-11	ELECT	47uF	20%	16V
C404	1-126-936-11	ELECT	3300uF	20%	16V
C405	1-126-942-61	ELECT	1000uF	20%	16V
C406	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C407	1-126-288-11	ELECT	4.7uF	20%	16V
C408	1-126-923-11	ELECT	220uF	20%	10V
C409	1-126-157-11	ELECT	10uF	20%	16V
C410	1-136-165-00	FILM	0.1uF	5%	50V
C411	1-126-157-11	ELECT	10uF	20%	16V
C501	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C502	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C503	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C504	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C506	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C507	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C508	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C509	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C510	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C511	1-136-165-00	FILM	0.1uF	5%	50V
CX3	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
CX5	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
		< CONNECTOR >			
CN4	1-770-051-11	CONNECTOR 7P			
CN101	1-770-083-11	CONNECTOR 3P			
CN802	1-778-189-11	PIN, CONNECTOR (PC BOARD) 14P			
		< DIODE >			
D1	8-719-421-09	DIODE MA723			
D2	8-719-421-09	DIODE MA723			
D7	8-719-991-33	DIODE 1SS133T-77			
D301	8-719-200-82	DIODE 11ES2			
D302	8-719-991-33	DIODE 1SS133T-77			

Ref. No.	Part No.	Description	Remark
D303	8-719-991-33	DIODE 1SS133T-77	
D401	8-719-921-74	DIODE MTZN-10A	
D402	8-719-989-62	DIODE RL254	
D403	8-719-991-33	DIODE 1SS133T-77	
D404	8-719-109-93	DIODE RD6.2ESB2	
D405	8-719-991-33	DIODE 1SS133T-77	
D406	8-719-991-33	DIODE 1SS133T-77	
D407	8-719-991-33	DIODE 1SS133T-77	
D408	8-719-921-63	DIODE MTZJ-7.5B	
D409	8-719-991-33	DIODE 1SS133T-77	
D410	8-719-110-03	DIODE RD7.5ESB2	
D411	8-719-989-62	DIODE RL254	
D415	8-719-991-33	DIODE 1SS133T-77	
		< IC >	
IC2	8-759-100-96	IC uPC4558G2	
IC102	8-759-368-11	IC LC75372E	
IC103	8-759-100-96	IC uPC4558G2	
IC104	8-759-369-42	IC HA13153	
IC501	8-759-428-79	IC uPD17017GF-B20-3B9	
		< JUMPER RESISTOR >	
JR201	1-216-295-00	CONDUCTOR, CHIP	(2012)
JR202	1-216-295-00	CONDUCTOR, CHIP	(2012)
JR203	1-216-295-00	CONDUCTOR, CHIP	(2012)
JR204	1-216-295-00	CONDUCTOR, CHIP	(2012)
JR205	1-216-295-00	CONDUCTOR, CHIP	(2012)
JR206	1-216-295-00	CONDUCTOR, CHIP	(2012)
JR207	1-216-295-00	CONDUCTOR, CHIP	(2012)
JR208	1-216-295-00	CONDUCTOR, CHIP	(2012)
JR209	1-216-295-00	CONDUCTOR, CHIP	(2012)
JR210	1-216-295-00	CONDUCTOR, CHIP	(2012)
JR301	1-216-296-00	CONDUCTOR, CHIP	(3216)
JR302	1-216-296-00	CONDUCTOR, CHIP	(3216)
JR303	1-216-296-00	CONDUCTOR, CHIP	(3216)
JR304	1-216-296-00	CONDUCTOR, CHIP	(3216)
JR305	1-216-296-00	CONDUCTOR, CHIP	(3216)
JR306	1-216-296-00	CONDUCTOR, CHIP	(3216)
JR307	1-216-296-00	CONDUCTOR, CHIP	(3216)
JR308	1-216-296-00	CONDUCTOR, CHIP	(3216)
JR309	1-216-296-00	CONDUCTOR, CHIP	(3216)
JR310	1-216-296-00	CONDUCTOR, CHIP	(3216)
JR311	1-216-296-00	CONDUCTOR, CHIP	(3216)
JR312	1-216-296-00	CONDUCTOR, CHIP	(3216)
JR313	1-216-296-00	CONDUCTOR, CHIP	(3216)
JR314	1-216-296-00	CONDUCTOR, CHIP	(3216)
JR315	1-216-296-00	CONDUCTOR, CHIP	(3216)
JR316	1-216-296-00	CONDUCTOR, CHIP	(3216)

Ref. No.	Part No.	Description		Remark
JR317	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JR318	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JR319	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JR320	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JR321	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JR322	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JR323	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JR324	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JR999	1-216-295-00	CONDUCTOR, CHIP	(2012)	
		< COIL >		
L1	1-410-324-11	INDUCTOR 4.7uH		
L401	1-411-669-12	COIL, CHOKE		
		< LIQUID CRYSTAL DISPLAY >		
LCD501	1-801-262-11	DISPLAY PANEL, LIQUID CRYSTAL		
		< TRANSISTOR >		
Q1	8-729-120-28	TRANSISTOR 2SC1623-L5L6		
Q2	8-729-120-28	TRANSISTOR 2SC1623-L5L6		
Q101	8-729-920-21	TRANSISTOR DTC314TKH04		
Q102	8-729-920-21	TRANSISTOR DTC314TKH04		
Q201	8-729-920-21	TRANSISTOR DTC314TKH04		
Q202	8-729-920-21	TRANSISTOR DTC314TKH04		
Q302	8-729-216-22	TRANSISTOR 2SA1162-G		
Q303	8-729-216-22	TRANSISTOR 2SA1162-G		
Q304	8-729-901-04	TRANSISTOR DTA114EK		
Q401	8-729-205-95	TRANSISTOR 2SA1428-Y		
Q402	8-729-900-53	TRANSISTOR DTC114EK		
Q403	8-729-205-95	TRANSISTOR 2SA1428-Y		
Q404	8-729-900-53	TRANSISTOR DTC114EK		
Q405	8-729-205-95	TRANSISTOR 2SA1428-Y		
Q406	8-729-900-53	TRANSISTOR DTC114EK		
Q407	1-807-307-31	TRANSISTOR 2SC3420-BL		
Q408	8-729-901-04	TRANSISTOR DTA114EK		
Q409	8-729-900-53	TRANSISTOR DTC114EK		
Q410	8-729-925-19	TRANSISTOR 2SD1225M-Q		
Q411	8-729-920-74	TRANSISTOR 2SC2412K-QR		
Q412	8-729-904-51	TRANSISTOR DTB123EK		
Q413	8-729-904-51	TRANSISTOR DTB123EK		
Q414	8-729-901-04	TRANSISTOR DTA114EK		
Q415	8-729-920-74	TRANSISTOR 2SC2412K-QR		
Q417	8-729-901-04	TRANSISTOR DTA114EK		
Q418	8-729-901-04	TRANSISTOR DTA114EK		
Q419	8-729-205-95	TRANSISTOR 2SA1428-Y		
Q501	8-729-901-01	TRANSISTOR DTC144EK		
Q502	8-729-900-53	TRANSISTOR DTC114EK		
Q503	8-729-901-01	TRANSISTOR DTC144EK		

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R1	1-216-073-00	METAL CHIP	10K 5%	1/10W	
R3	1-249-393-11	CARBON	10 5%	1/4W	
R4	1-249-393-11	CARBON	10 5%	1/4W	
R5	1-216-061-00	METAL CHIP	3.3K 5%	1/10W	
R6	1-216-089-00	METAL GLAZE	47K 5%	1/10W	
R7	1-216-049-11	METAL GLAZE	1K 5%	1/10W	
R10	1-216-041-00	METAL CHIP	470 5%	1/10W	
R14	1-216-073-00	METAL CHIP	10K 5%	1/10W	
R18	1-216-089-00	METAL GLAZE	47K 5%	1/10W	
R20	1-216-049-11	METAL GLAZE	1K 5%	1/10W	
R21	1-216-107-00	METAL CHIP	270K 5%	1/10W	
R22	1-216-222-00	METAL GLAZE	10K 5%	1/8W	
R23	1-216-073-00	METAL CHIP	10K 5%	1/10W	
R24	1-216-075-00	METAL CHIP	12K 5%	1/10W	
R25	1-216-053-00	METAL CHIP	1.5K 5%	1/10W	
R101	1-216-089-00	METAL GLAZE	47K 5%	1/10W	
R102	1-216-081-00	METAL CHIP	22K 5%	1/10W	
R103	1-216-107-00	METAL CHIP	270K 5%	1/10W	
R104	1-216-031-00	METAL CHIP	180 5%	1/10W	
R105	1-216-073-00	METAL CHIP	10K 5%	1/10W	
R106	1-216-689-11	METAL CHIP	39K 0.5%	1/10W	
R107	1-216-073-00	METAL CHIP	10K 5%	1/10W	
R108	1-216-077-00	METAL CHIP	15K 5%	1/10W	
R109	1-216-073-00	METAL CHIP	10K 5%	1/10W	
R110	1-216-073-00	METAL CHIP	10K 5%	1/10W	
R111	1-216-057-00	METAL CHIP	2.2K 5%	1/10W	
R112	1-216-057-00	METAL CHIP	2.2K 5%	1/10W	
R113	1-216-073-00	METAL CHIP	10K 5%	1/10W	
R114	1-216-073-00	METAL CHIP	10K 5%	1/10W	
R115	1-216-081-00	METAL CHIP	22K 5%	1/10W	
R116	1-216-081-00	METAL CHIP	22K 5%	1/10W	
R201	1-216-089-00	METAL GLAZE	47K 5%	1/10W	
R202	1-216-081-00	METAL CHIP	22K 5%	1/10W	
R203	1-216-107-00	METAL CHIP	270K 5%	1/10W	
R204	1-216-031-00	METAL CHIP	180 5%	1/10W	
R205	1-216-073-00	METAL CHIP	10K 5%	1/10W	
R206	1-216-689-11	METAL CHIP	39K 0.5%	1/10W	
R207	1-216-073-00	METAL CHIP	10K 5%	1/10W	
R208	1-216-077-00	METAL CHIP	15K 5%	1/10W	
R209	1-216-073-00	METAL CHIP	10K 5%	1/10W	
R210	1-216-073-00	METAL CHIP	10K 5%	1/10W	
R211	1-216-057-00	METAL CHIP	2.2K 5%	1/10W	
R212	1-216-057-00	METAL CHIP	2.2K 5%	1/10W	
R213	1-216-073-00	METAL CHIP	10K 5%	1/10W	
R214	1-216-073-00	METAL CHIP	10K 5%	1/10W	
R215	1-216-081-00	METAL CHIP	22K 5%	1/10W	
R216	1-216-081-00	METAL CHIP	22K 5%	1/10W	

MAIN POWER SWITCH

Ref. No.	Part No.	Description				Remark
R301	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R302	1-249-401-11	CARBON	47	5%	1/4W	
R307	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R308	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R309	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R311	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R312	1-259-880-11	CARBON	2.2M	5%	1/4W	
R313	1-259-880-11	CARBON	2.2M	5%	1/4W	
R314	1-259-880-11	CARBON	2.2M	5%	1/4W	
R315	1-259-880-11	CARBON	2.2M	5%	1/4W	
R316	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R317	1-216-051-00	METAL CHIP	1.2K	5%	1/10W	
R401	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R402	1-249-417-11	CARBON	1K	5%	1/4W	
R403	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R404	1-249-417-11	CARBON	1K	5%	1/4W	
R405	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R406	1-249-417-11	CARBON	1K	5%	1/4W	
R407	1-216-041-00	METAL CHIP	470	5%	1/10W	
R408	1-249-401-11	CARBON	47	5%	1/4W	
R409	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R410	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R411	1-216-222-00	METAL GLAZE	10K	5%	1/8W	
R412	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R413	1-216-113-00	METAL CHIP	470K	5%	1/10W	
R414	1-215-861-00	METAL OXIDE	47	5%	1W	F
R415	1-249-393-11	CARBON	10	5%	1/4W	
R416	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R417	1-216-113-00	METAL CHIP	470K	5%	1/10W	
R421	1-249-428-11	CARBON	8.2K	5%	1/4W	
R422	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R423	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R424	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R425	1-216-210-00	METAL GLAZE	3.3K	5%	1/8W	
R426	1-216-357-00	METAL OXIDE	4.7	5%	1W	F
R427	1-216-357-00	METAL OXIDE	4.7	5%	1W	F
R428	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R429	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R432	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R501	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R502	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R503	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R504	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R505	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R506	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R507	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R508	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R509	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R510	1-216-238-00	METAL GLAZE	47K	5%	1/8W	
R511	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R512	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R513	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R514	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R515	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R516	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R517	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R518	1-216-113-00	METAL CHIP	470K	5%	1/10W	
R519	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R520	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R521	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R522	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R523	1-216-222-00	METAL GLAZE	10K	5%	1/8W	
R524	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R525	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R526	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R528	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R532	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R534	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R537	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R538	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R539	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R540	1-216-101-00	METAL CHIP	150K	5%	1/10W	
		< DISCHARGE GAP >				
SUP1	1-519-504-11	GAP, DISCHARGE				
		< VIBRATOR >				
X501	1-567-713-11	VIBRATOR, CRYSTAL (4.5MHz)				
**********						
*	1-661-159-11	POWER BOARD				
		**********				
		< CONNECTOR >				
CN801	1-770-228-11	CONNECTOR				
		< FUSE >				
F801	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) 10A				
**********						
*	A-3309-297-A	SWITCH BOARD, COMPLETE				
		**********				
		< PILOT LAMP >				
PL601	1-517-566-11	LAMP, PILOT				
PL602	1-517-566-11	LAMP, PILOT				
PL603	1-517-566-11	LAMP, PILOT				

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R601	1-216-053-00	METAL CHIP	1.5K 5%	1/10W	
R602	1-216-057-00	METAL CHIP	2.2K 5%	1/10W	
R603	1-216-061-00	METAL CHIP	3.3K 5%	1/10W	
R604	1-216-053-00	METAL CHIP	1.5K 5%	1/10W	
R605	1-216-057-00	METAL CHIP	2.2K 5%	1/10W	
R606	1-216-061-00	METAL CHIP	3.3K 5%	1/10W	
R607	1-216-069-00	METAL CHIP	6.8K 5%	1/10W	
R608	1-216-077-00	METAL CHIP	15K 5%	1/10W	
R609	1-216-053-00	METAL CHIP	1.5K 5%	1/10W	
R610	1-216-057-00	METAL CHIP	2.2K 5%	1/10W	
R611	1-216-061-00	METAL CHIP	3.3K 5%	1/10W	
R612	1-216-069-00	METAL CHIP	6.8K 5%	1/10W	
R613	1-216-077-00	METAL CHIP	15K 5%	1/10W	
R614	1-216-295-00	CONDUCTOR, CHIP		(2012)	
		< SWITCH >			
SW601	1-572-704-21	SWITCH, KEY BOARD (OFF)			
SW602	1-572-704-21	SWITCH, KEY BOARD (+)			
SW603	1-572-704-21	SWITCH, KEY BOARD (SEL)			
SW604	1-572-704-21	SWITCH, KEY BOARD (-)			
SW605	1-572-704-21	SWITCH, KEY BOARD (TUNER)			
SW606	1-572-704-21	SWITCH, KEY BOARD (SENS)			
SW607	1-572-704-21	SWITCH, KEY BOARD (+ (SEEK/MANU))			
SW608	1-572-704-21	SWITCH, KEY BOARD (- (SEEK/MANU))			
SW609	1-572-704-21	SWITCH, KEY BOARD (2)			
SW610	1-572-704-21	SWITCH, KEY BOARD (1)			
SW611	1-572-704-21	SWITCH, KEY BOARD (A.MEM/M.SCAN)			
SW612	1-572-704-21	SWITCH, KEY BOARD (LOUD)			
SW613	1-572-704-21	SWITCH, KEY BOARD (6)			
SW614	1-572-704-21	SWITCH, KEY BOARD (5)			
SW615	1-572-704-21	SWITCH, KEY BOARD (4)			
SW616	1-572-704-21	SWITCH, KEY BOARD (3)			
**********					
*	1-661-158-11	TUNER BOARD			
		**********			
		< CAPACITOR >			
C41	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C51	1-163-809-11	CERAMIC CHIP	0.047uF 10%	25V	
C52	1-126-947-11	ELECT	47uF 20%	35V	
C53	1-163-010-11	CERAMIC CHIP	0.0012uF 10%	50V	
C54	1-163-037-11	CERAMIC CHIP	0.022uF 10%	25V	
C55	1-163-037-11	CERAMIC CHIP	0.022uF 10%	25V	
C56	1-164-004-11	CERAMIC CHIP	0.1uF 10%	25V	
C57	1-164-489-11	CERAMIC CHIP	0.22uF 10%	16V	
C58	1-163-231-11	CERAMIC CHIP	15PF 5%	50V	
C59	1-164-004-11	CERAMIC CHIP	0.1uF 10%	25V	

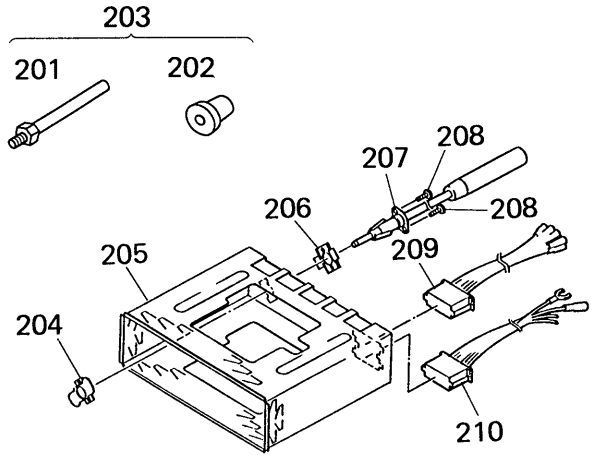
Ref. No.	Part No.	Description				Remark
C60	1-128-054-11	ELECT	22uF	20%	10V	
C61	1-126-301-11	ELECT	1uF	20%	50V	
C62	1-163-022-00	CERAMIC CHIP	0.012uF	10%	50V	
C63	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V	
C64	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V	
C65	1-163-075-00	CERAMIC CHIP	0.047uF		50V	
C66	1-126-162-11	ELECT	3.3uF	20%	50V	
C67	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V	
C68	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V	
C69	1-126-157-11	ELECT	10uF	20%	16V	
C70	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C71	1-126-933-11	ELECT	100uF	20%	16V	
C72	1-126-162-11	ELECT	3.3uF	20%	50V	
C73	1-163-133-00	CERAMIC CHIP	470PF	5%	50V	
C74	1-163-222-11	CERAMIC CHIP	5PF	0.25PF	50V	
C75	1-163-257-11	CERAMIC CHIP	180PF	5%	50V	
C76	1-163-133-00	CERAMIC CHIP	470PF	5%	50V	
C77	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V	
C78	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V	
C79	1-126-159-11	ELECT	0.47uF	20%	50V	
C80	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V	
C81	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V	
C82	1-126-301-11	ELECT	1uF	20%	50V	
C83	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V	
C84	1-126-301-11	ELECT	1uF	20%	50V	
C85	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V	
C86	1-163-007-11	CERAMIC CHIP	680PF	10%	50V	
C87	1-124-463-00	ELECT	0.1uF	20%	50V	
C88	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V	
C90	1-163-222-11	CERAMIC CHIP	5PF	0.25PF	50V	
C91	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C92	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V	
C93	1-163-113-00	CERAMIC CHIP	68PF	5%	50V	
C94	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V	
		< FILTER >				
CF51	1-567-309-11	FILTER, CERAMIC				
CF52	1-579-185-21	FILTER, CERAMIC				
		< CONNECTOR >				
CN51	1-778-187-11	PIN, CONNECTOR 8P				
CN52	1-778-188-11	PIN, CONNECTOR 16P				
		< TRIMMER >				
CT51	1-141-346-11	CAP, VAR, TRIMMER 10PF				
CT52	1-141-346-11	CAP, VAR, TRIMMER 10PF				
CT53	1-141-346-11	CAP, VAR, TRIMMER 10PF				

TUNER

Ref. No.	Part No.	Description	Remark
		< DIODE >	
D51	8-719-404-49	DIODE MA111	
D52	8-719-049-16	DIODE 1SV234	
D53	8-719-053-81	DIODE SVC354S	
D54	8-719-981-97	DIODE MTZJ-3.0A	
D55	8-719-991-33	DIODE 1SS133T-77	
D56	8-719-991-33	DIODE 1SS133T-77	
		< TUNER >	
TU51	1-465-919-11	TUNER UNIT	
		< IC >	
IC51	8-759-265-93	IC LA1875M-TE-L	
		< JUMPER RESISTOR >	
JR21	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR22	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR23	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR24	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR25	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR26	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR31	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR32	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR33	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR34	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR35	1-216-296-00	CONDUCTOR, CHIP (3216)	
		< COIL >	
L51	1-410-973-11	INDUCTOR 22uH	
L52	1-410-973-11	INDUCTOR 22uH	
L53	1-411-853-11	COIL (LW OSC)	
L54	1-411-852-11	COIL (MW OSC)	
L55	1-410-324-11	INDUCTOR 4.7uH	
		< TRANSISTOR >	
Q51	8-729-902-99	TRANSISTOR DTC114TK	
Q52	8-729-931-02	TRANSISTOR 2SC2413KQ	
Q53	8-729-902-99	TRANSISTOR DTC114TK	
Q54	8-729-012-35	TRANSISTOR 2SK711-BL	
Q55	8-729-931-02	TRANSISTOR 2SC2413KQ	
Q56	8-729-032-50	TRANSISTOR 2SC4018K-N	
Q57	8-729-032-50	TRANSISTOR 2SC4018K-N	
Q58	8-729-012-35	TRANSISTOR 2SK711-BL	
Q59	8-729-900-53	TRANSISTOR DTC114EK	
Q60	8-729-900-53	TRANSISTOR DTC114EK	
Q61	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q62	8-729-900-53	TRANSISTOR DTC114EK	
Q63	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q64	8-729-216-22	TRANSISTOR 2SA1162-G	
		< RESISTOR >	
R43	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R51	1-216-049-11	METAL GLAZE 1K 5% 1/10W	
R52	1-216-009-00	METAL CHIP 22 5% 1/10W	
R53	1-216-079-00	METAL GLAZE 18K 5% 1/10W	
R54	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R55	1-216-039-00	METAL CHIP 390 5% 1/10W	
R56	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R57	1-216-033-00	METAL CHIP 220 5% 1/10W	
R58	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R59	1-216-039-00	METAL CHIP 390 5% 1/10W	
R60	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R61	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R62	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R63	1-216-121-00	METAL GLAZE 1M 5% 1/10W	
R64	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R65	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R66	1-216-075-00	METAL CHIP 12K 5% 1/10W	
R67	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R68	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R69	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R70	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R71	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R72	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R73	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	
R74	1-216-101-00	METAL CHIP 150K 5% 1/10W	
R75	1-216-067-00	METAL CHIP 5.6K 5% 1/10W	
R76	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R77	1-216-041-00	METAL CHIP 470 5% 1/10W	
R78	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R79	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R80	1-216-222-00	METAL GLAZE 10K 5% 1/8W	
R81	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R82	1-216-103-00	METAL CHIP 180K 5% 1/10W	
R83	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R84	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R86	1-216-079-00	METAL CHIP 18K 5% 1/10W	
R87	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R89	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
		< VARIABLE RESISTOR >	
RV51	1-230-497-11	RES, ADJ, CARBON 22K	
RV52	1-230-495-11	RES, ADJ, CARBON 2.2K	
RV53	1-230-945-11	RES, ADJ, CARBON 470K	

Ref. No.	Part No.	Description	Remark
		< COIL >	
T51	1-411-849-11	COIL (MW RF)	
T52	1-411-850-11	COIL (LW RF)	
T53	1-411-848-11	COIL (MW RF)	
T54	1-411-850-11	COIL (LW RF)	
T55	1-411-854-11	COIL (AM IFT)	
T56	1-411-847-11	COIL (FM DET)	
		< VIBRATOR >	
X51	1-579-278-11	VIBRATOR, CERAMIC (456kHz)	
		MISCELLANEOUS	
69	1-769-261-11	CORD (WITH CONNECTOR) 3P	
73	1-769-262-11	CORD (WITH CONNECTOR) 7P	
BAT401	1-528-225-31	BATTERY, LITHIUM (CR2032) 3V	
F801	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) 10A	
HP701	1-543-717-11	HEAD, MAGNETIC (PLAYBACK)	
M701	X-3365-046-1	MOTOR ASSY (REEL/CAPSTAN)	
S701	1-692-502-11	SWITCH, SLIDE (DIRECTION)	
S702	1-692-065-11	SWITCH, LEAF (MUTE)	
S703	1-554-790-21	SWITCH, POWER (TAPE DET)	
		ACCESSORIES & PACKING MATERIALS	
	3-856-689-41	MANUAL, INSTRUCTION (ENGLISH,FRENCH, SPANISH,TURKISH,ARABIC)	
	3-856-690-41	MANUAL, INSTRUCTION, INSTALL (ENGLISH, FRENCH,SPANISH,TURKISH,ARABIC)	
		HARDWARE LIST	
#1	7-621-775-10	SCREW +B 2.6X4	
#2	7-621-770-67	SCREW +PTT 2.6X6 (S)	
#3	7-621-770-XX	SCREW +PTT 2.6X8 (S)	
#4	7-621-555-10	SCREW +K 2X3	
#5	7-621-255-25	SCREW +PTT 2X4 (S)	
#6	7-627-553-88	SCREW, PRECISION +P 2X7	
#7	7-624-102-04	STOP RING 1.5, TYPE -E	
#8	7-624-104-04	STOP RING 2.0, TYPE -E	
#9	7-624-118-01	RING, RETAINING E-2.5	
#10	7-627-553-48	SCREW, PRECISION +P 2X4	
#11	7-621-255-15	SCREW +P 2X3	
#12	7-621-591-00	SCREW +K 2X4	
#13	7-621-773-86	SCREW +PTT 2.6X4 (S)	

Ref. No.	Part No.	Description	Remark
		PARTS FOR INSTALLATION AND CONNECTIONS	
201	3-386-828-01	SCREW, FITTING	
202	3-349-410-01	BUSHING	
203	X-3366-405-1	SCREW ASSY (EXP), FITTING	
204	3-935-573-01	BRACKET (ANT)	
205	X-3372-128-1	BRACKET ASSY	
206	3-935-602-01	PLATE (ANT), GROUND	
207	1-769-453-11	CORD (WITH CONNECTOR) (ANT)	
208	7-621-770-67	SCREW +PTT 2.6X6 (S)	
209	1-769-452-11	CORD (WITH CONNECTOR) (SP)	
210	1-777-093-11	CORD (WITH CONNECTOR)	



9-923-580-11

Sony Corporation
Personal & Mobile Communication Company

English
96H047548-1
Printed in Germany

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Published by Quality Assurance Dept.